# CHAPTER 4

## POINT AND NONPOINT SOURCE CHARACTERIZATION OF THE UPPER CLINCH RIVER WATERSHED



**4.1. BACKGROUND.** This chapter is organized by HUC-12 subwatershed, and the description of each subwatershed is divided into four parts:

i. General description of the subwatershed
ii. Description of point source contributions
ii.a. Description of facilities discharging to water bodies listed on the 2004 303(d) list
iii. Description of nonpoint source contributions

The Tennessee portion of the Upper Clinch River Watershed (HUC 06010205) has been delineated into five HUC 10 (10-digit) subwatersheds, each of which is composed of one or more HUC-12 subwatersheds.

Information for this chapter was obtained from databases maintained by the Division of Water Pollution Control or provided in the WCS (Watershed Characterization System) data set. The WCS used was version 2.0 (developed by Tetra Tech, Inc for EPA Region 4) released in 2003.

WCS integrates with ArcView® v3.x and Spatial Analyst® v1.1 to analyze user-delineated (sub)watersheds based on hydrologically connected water bodies. Reports are generated by integrating WCS with Microsoft® Word. Land Use/Land Cover information from 1992 MRLC (Multi-Resolution Land Cover) data are calculated based on the proportion of county-based land use/land cover in user-delineated (sub)watersheds. Nonpoint source data in WCS are based on agricultural census data collected 1992–1998; nonpoint source data were reviewed by Tennessee NRCS staff.

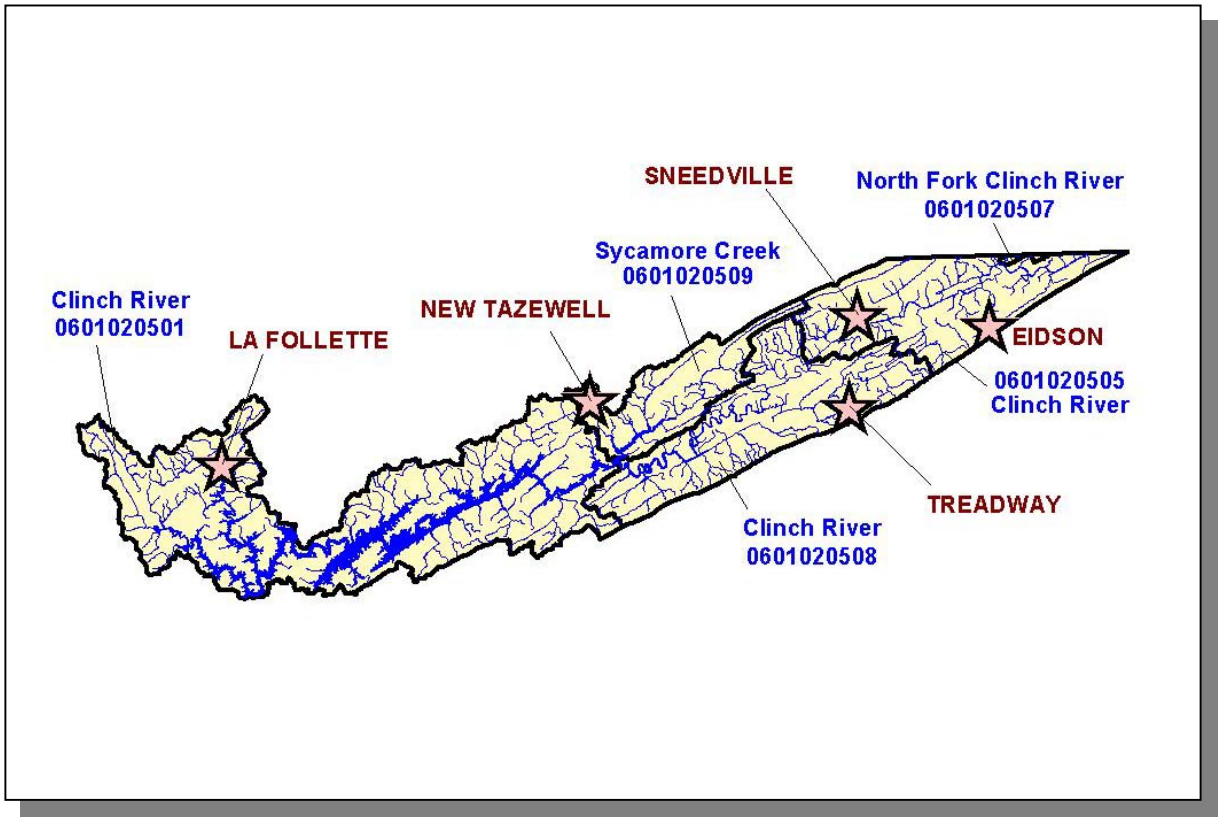


***Figure 4-1. The Tennessee Portion of the Upper Clinch River Watershed is Composed of Five USGS-Delineated Subwatersheds (10-Digit Subwatersheds).*** *Locations of Eidson, La Follette, New Tazewell, Sneedville, and Treadway are shown for reference.*

**4.2. CHARACTERIZATION OF HUC-10 SUBWATERSHEDS.** The Watershed Characterization System (WCS) software and data sets provided by EPA Region IV were used to characterize each subwatershed in the Tennessee portion of the Upper Clinch River Watershed.

| HUC-10 | HUC-12 |
|---|---|
| 0601020501 | 060102050101 (Norris Lake) |
| | 060102050102 (Norris Lake) |
| | 060102050103 (Norris Lake) |
| | 060102050104 (Norris Lake) |
| | 060102050105 (Big Creek) |
| | 060102050106 (Cove Creek) |
| | |
| 0601020505 | 060102050502 (Clinch River) |
| | 060102050503 (War Creek) |
| | 060102050504 (Blackwater Creek) |
| | 060102050505 (Clinch River) |
| | 060102050506 (Richardson Creek) |
| | 060102050507 (Panther Creek) |
| | |
| 0601020507 | 060102050702 (North Fork Clinch River) |
| | |
| 0601020508 | 060102050801 (Clinch River) |
| | 060102050802 (Big War Creek) |
| | 060102050803 (Indian Creek) |
| | 060102050804 (Clinch River) |
| | |
| 0601020509 | 060102050901 (Big Sycamore Creek) |
| | 060102050902 (Little Sycamore Creek) |
| | 060102050903 (Sycamore Creek) |

***Table 4-1. HUC-12 Drainage Areas are Nested Within HUC-10 Drainages.*** *NRCS worked with USGS to delineate the HUC-10 and HUC-12 drainage boundaries.*

4.2.A. 0601020501.

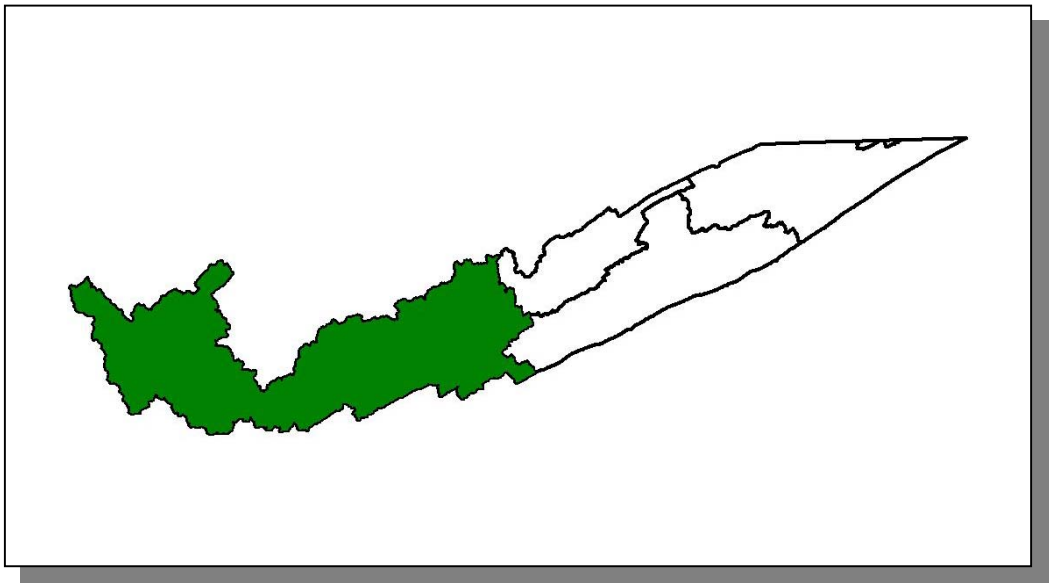

***Figure 4-2. Location of Subwatershed 0601020501.*** *All Upper Clinch River HUC-10 subwatershed boundaries in Tennessee are shown for reference.*

4.2.A.i. 060102050101 (Norris Lake).

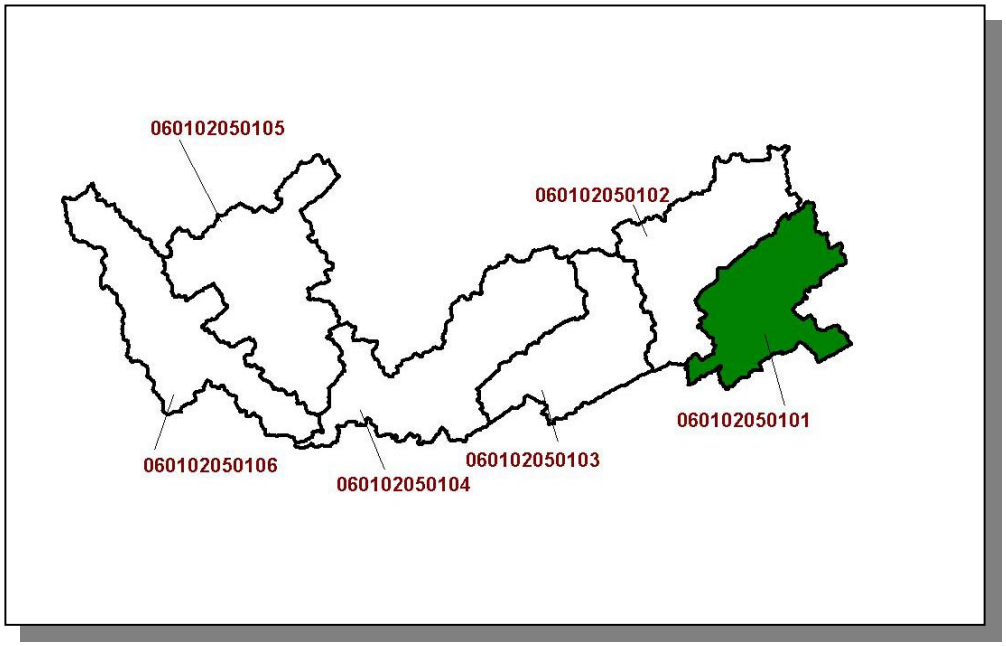


***Figure 4-3. Location of Subwatershed 060102050101.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

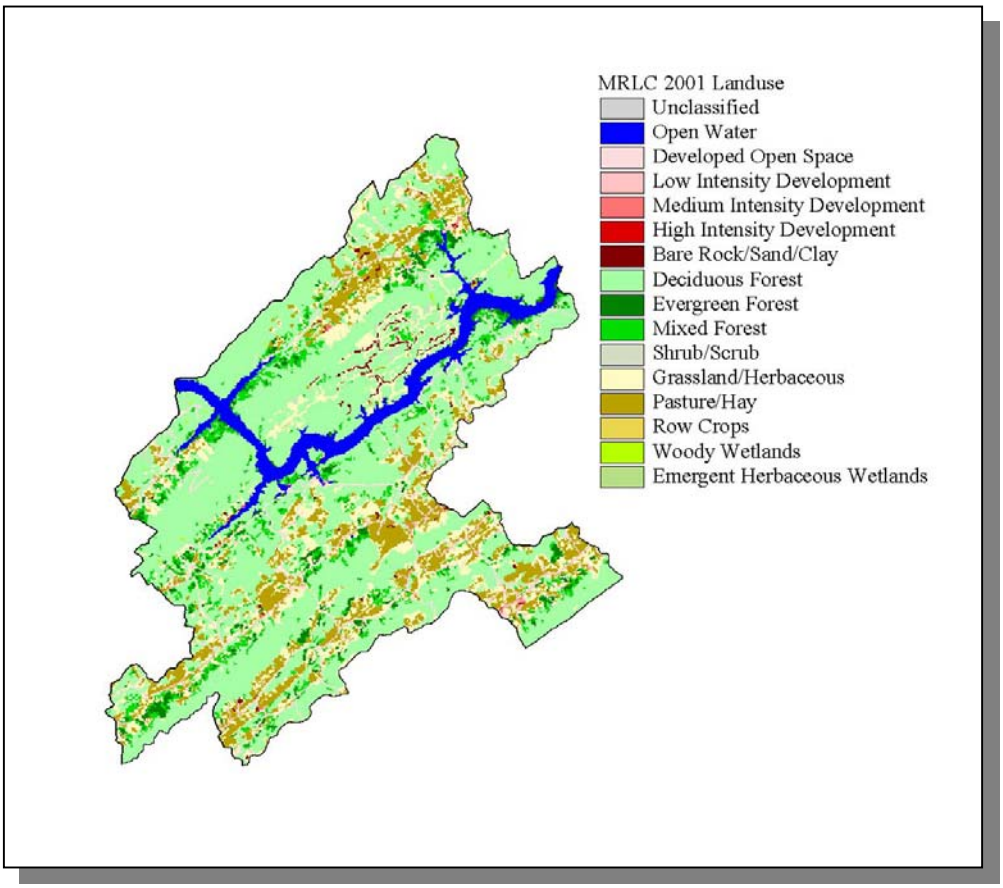


***Figure 4-4. Illustration of Land Use Distribution in Subwatershed 060102050101.***

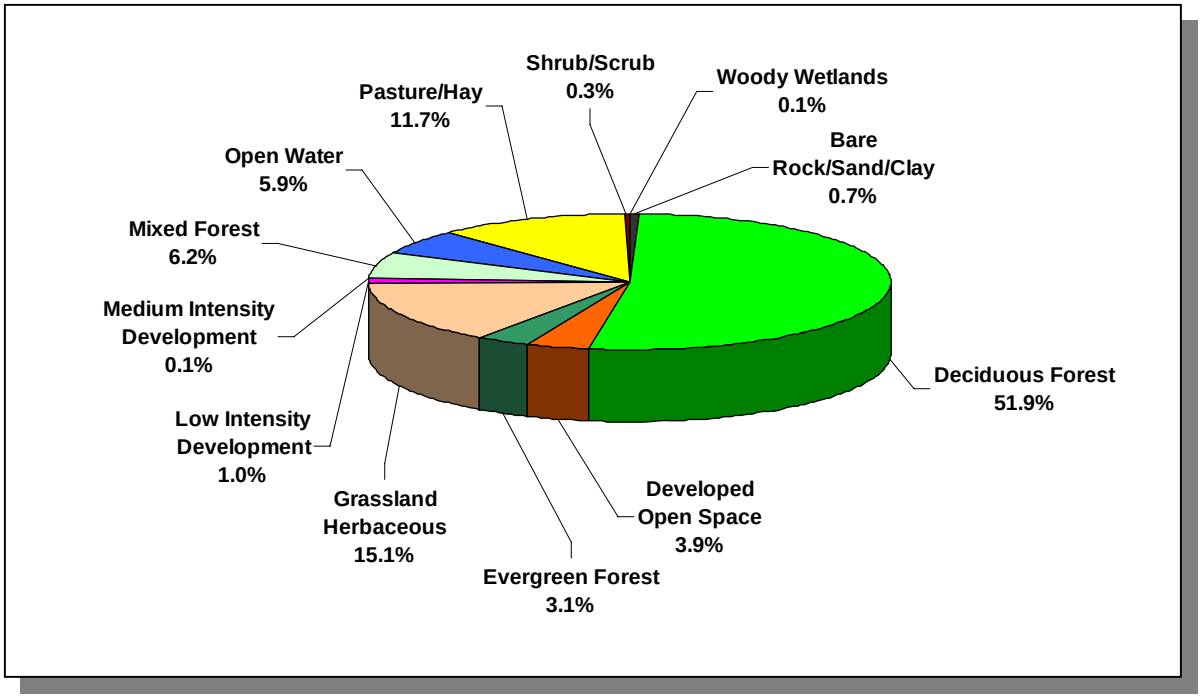


***Figure 4-5. Land Use Distribution in Subwatershed 060102050101.*** *More information is provided in Appendix IV.*

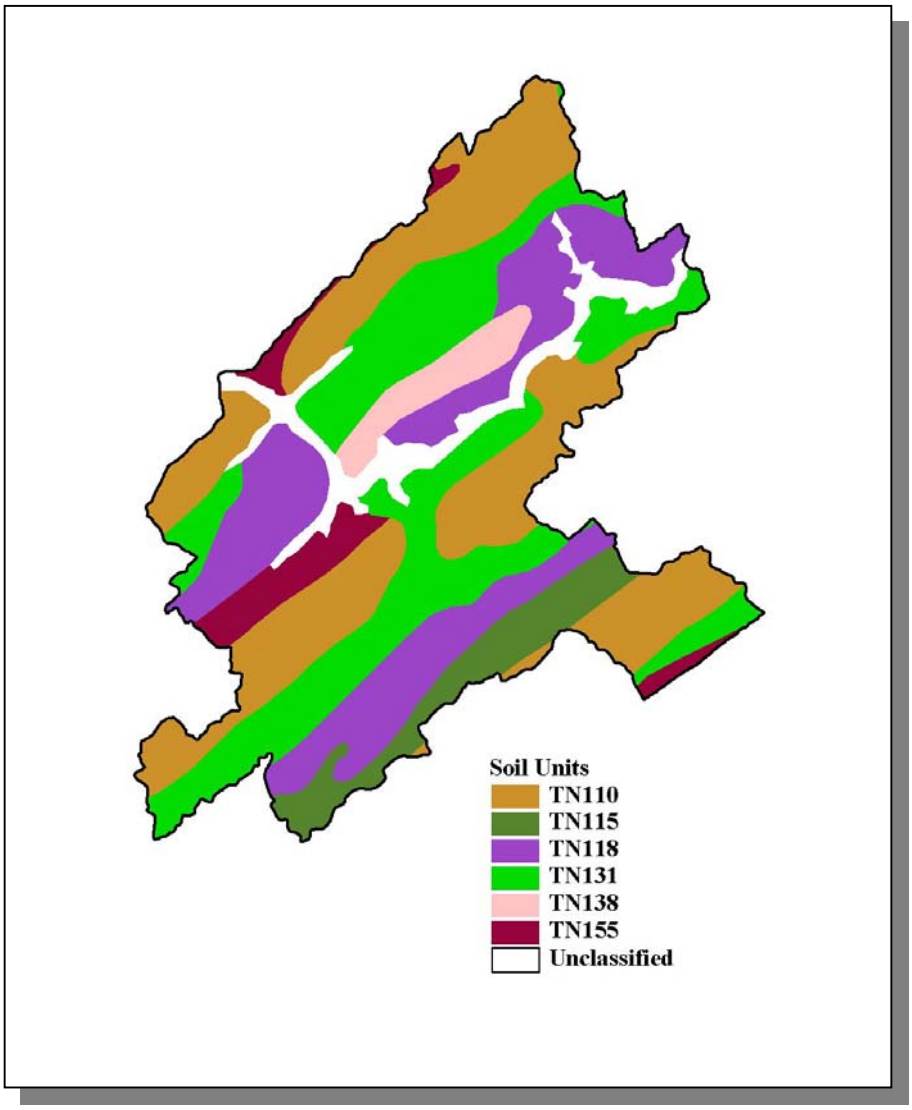


***Figure 4-6. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050101.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN115 | 0.00 | C | 1.41 | 5.15 | Silty Loam | 0.36 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |

***Table 4-2. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050101.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

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| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Claiborne | 26,137 | 28,963 | 29,862 | 3.77 | 987 | 1,093 | 1,127 | 14.2 |
| Grainger | 17,095 | 19,456 | 20,659 | 7.46 | 1,275 | 1,451 | 1,540 | 20.8 |
| Union | 13,694 | 15,956 | 17,808 | 2.47 | 338 | 394 | 440 | 30.2 |
| **Total** | **56,926** | **64,375** | **68,329** | | **2,600** | **2,938** | **3,107** | **19.5** |

***Table 4-3. Population Estimates in Subwatershed 060102050101.***

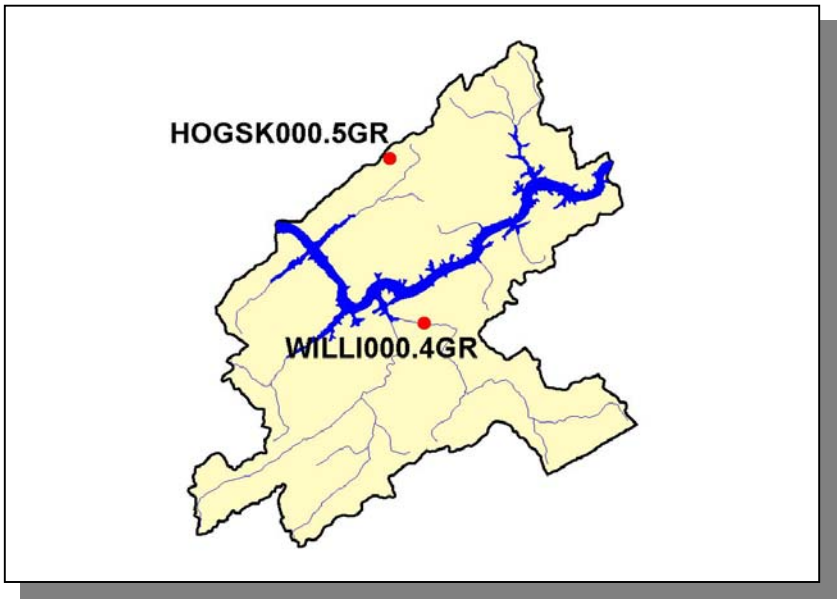


***Figure 4-7. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050101.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.A.i.a. Point Source Contributions.

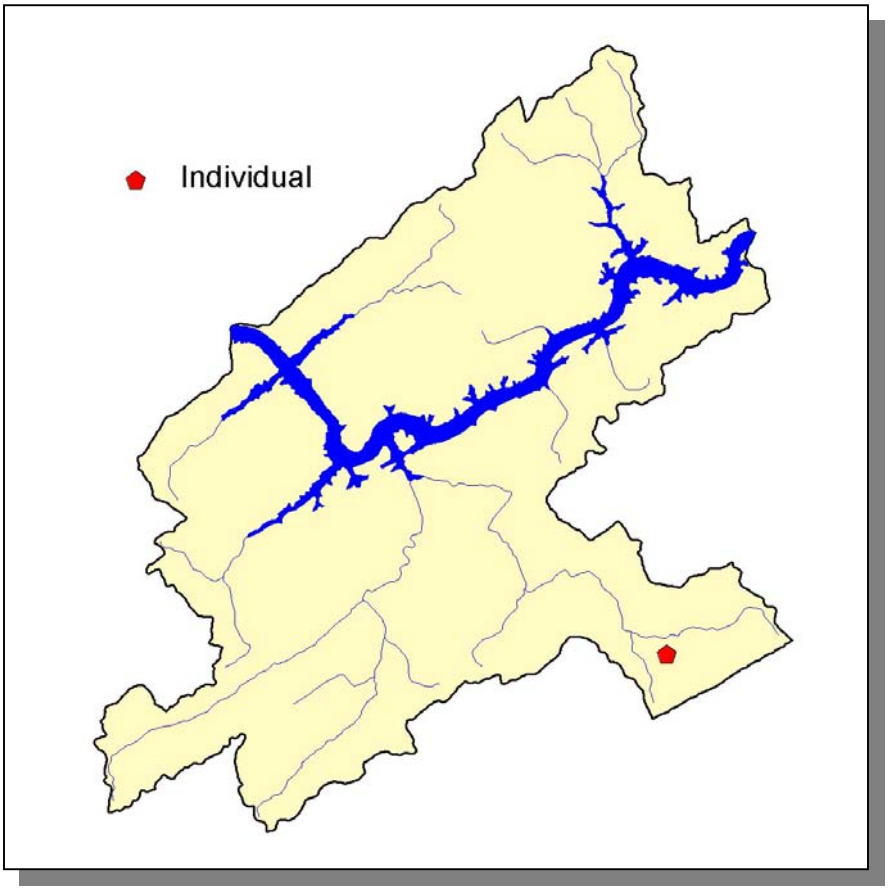


***Figure 4-8. Location of Permits Issued in Subwatershed 060102050101.*** *More information, including the names of facilities, is provided in Appendix IV.*

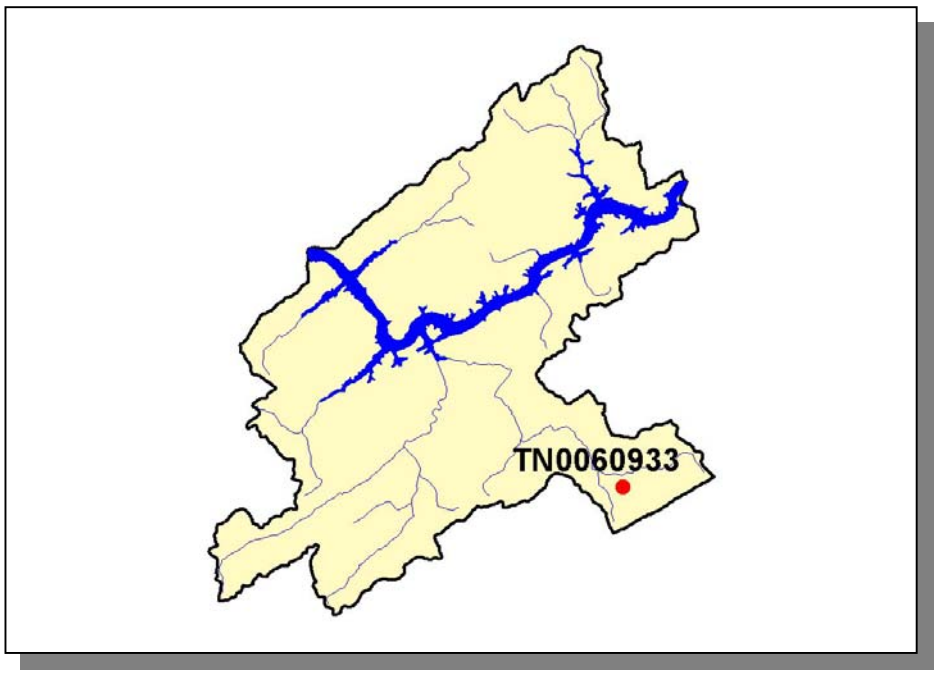


***Figure 4-9. Location of Active NPDES Sites in Subwatershed 060102050101.*** *More information, including the names of facilities, is provided in Appendix IV.*

4.2.A.i.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 1,181 | 2,320 | 79 | <5 | 34 | 17 |

***Table 4-4. Summary of Livestock Count Estimates in Subwatershed 060102050101.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Claiborne | 18,697 | 36,566 | 1,082 | 420 | 0 | 165 |
| Grainger | 12,115 | 23,927 | 942 | 1,184 | 510 | 195 |
| Union | 5,540 | 10,575 | 105 | 981 | 93 | 96 |

***Table 4-5. Summary of Livestock Count Estimates in Claiborne, Grainger, and Union Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Claiborne | 167.6 | 167.6 | 2.6 | 12.1 |
| Grainger | 102.6 | 102.6 | 0.3 | 1.8 |
| Union | 102.5 | 102.5 | 0.1 | 0.0 |

***Table 4-6. Forest Acreage and Annual Removal Rates (1987-1994) in Claiborne, Grainger, and Union Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.70 |
| Grass (Hayland) | 0.65 |
| Legumes, Grass (Hayland) | 0.60 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.68 |
| Corn (Row Crops) | 5.69 |
| Tobacco (Row Crops) | 7.21 |
| Farmsteads and Ranch Headquarters | 0.45 |

***Table 4-7. Annual Estimated Total Soil Loss in Subwatershed 060102050101.***

4.2.A.ii. 060102050102 (Norris Lake).

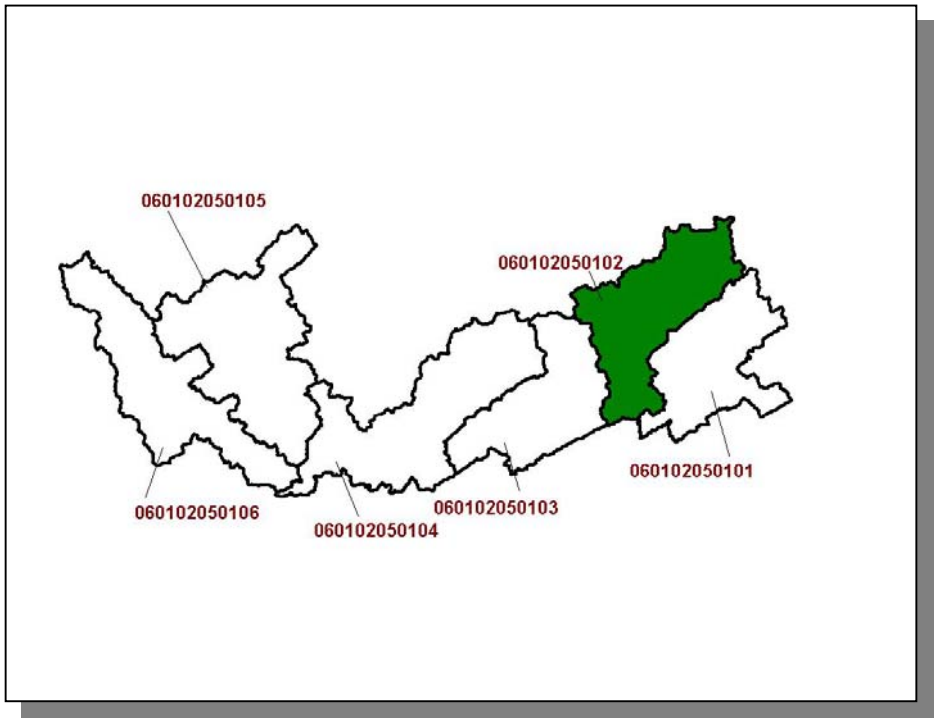


***Figure 4-10. Location of Subwatershed 060102050102.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

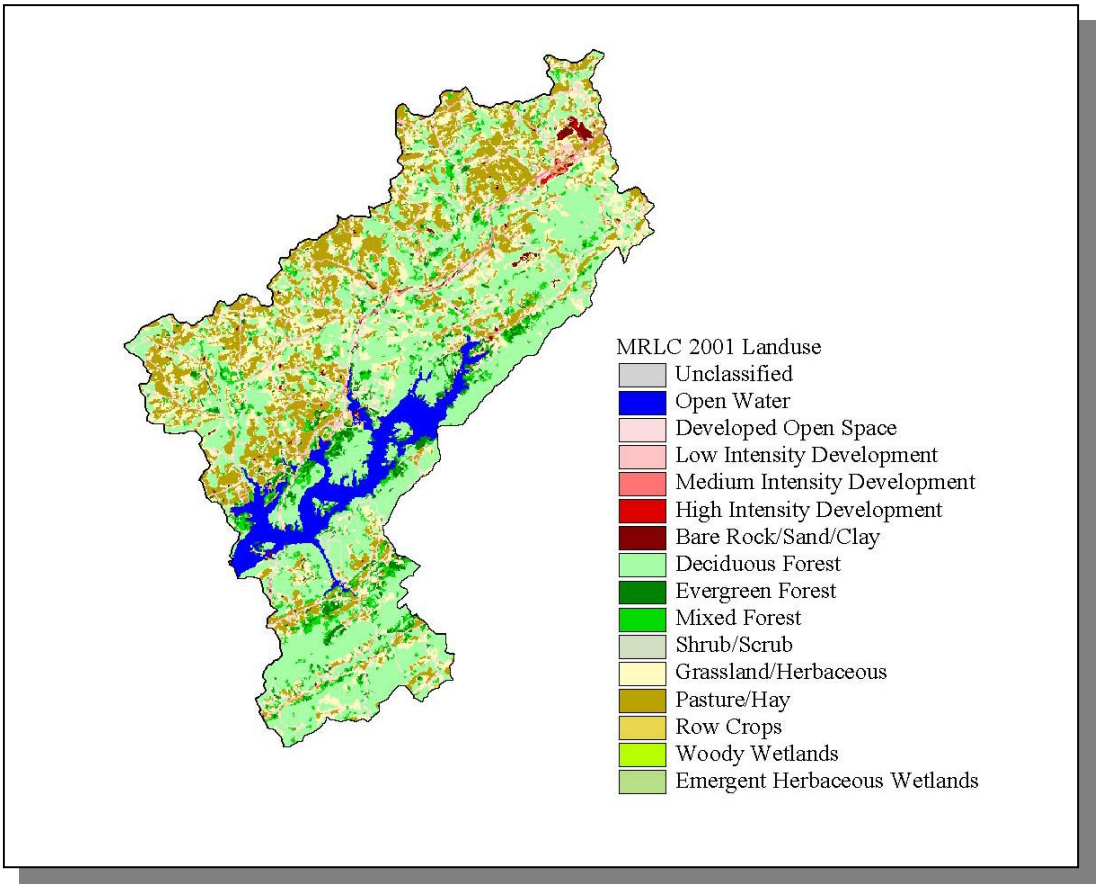


***Figure 4-11. Illustration of Land Use Distribution in Subwatershed 060102050102.***

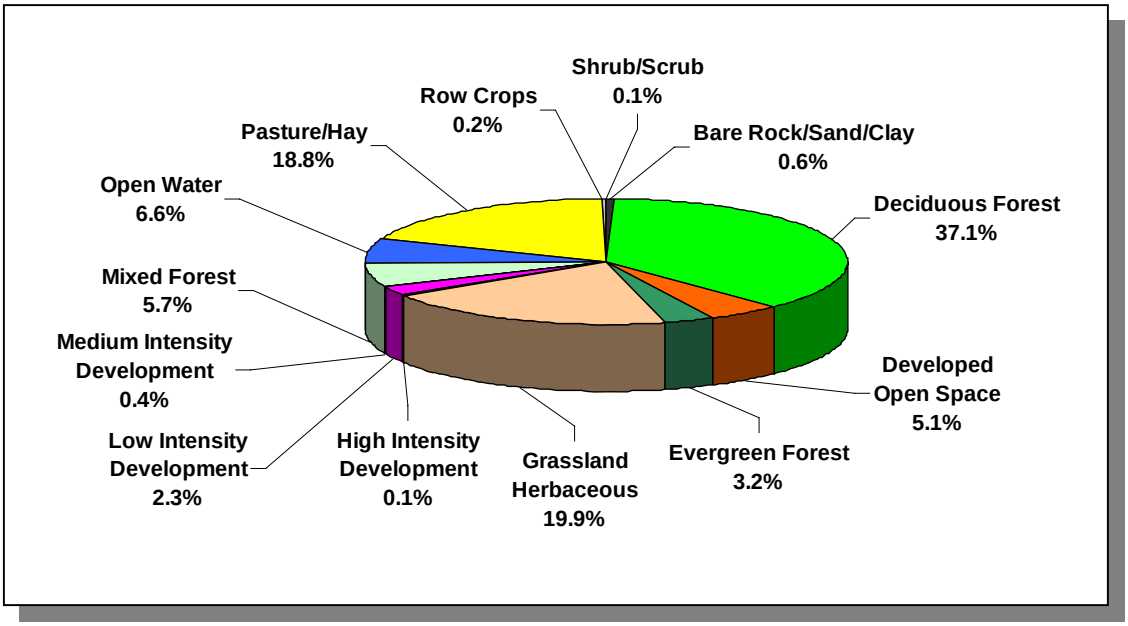


***Figure 4-12. Land Use Distribution in Subwatershed 060102050102.*** *More information is provided in Appendix IV.*

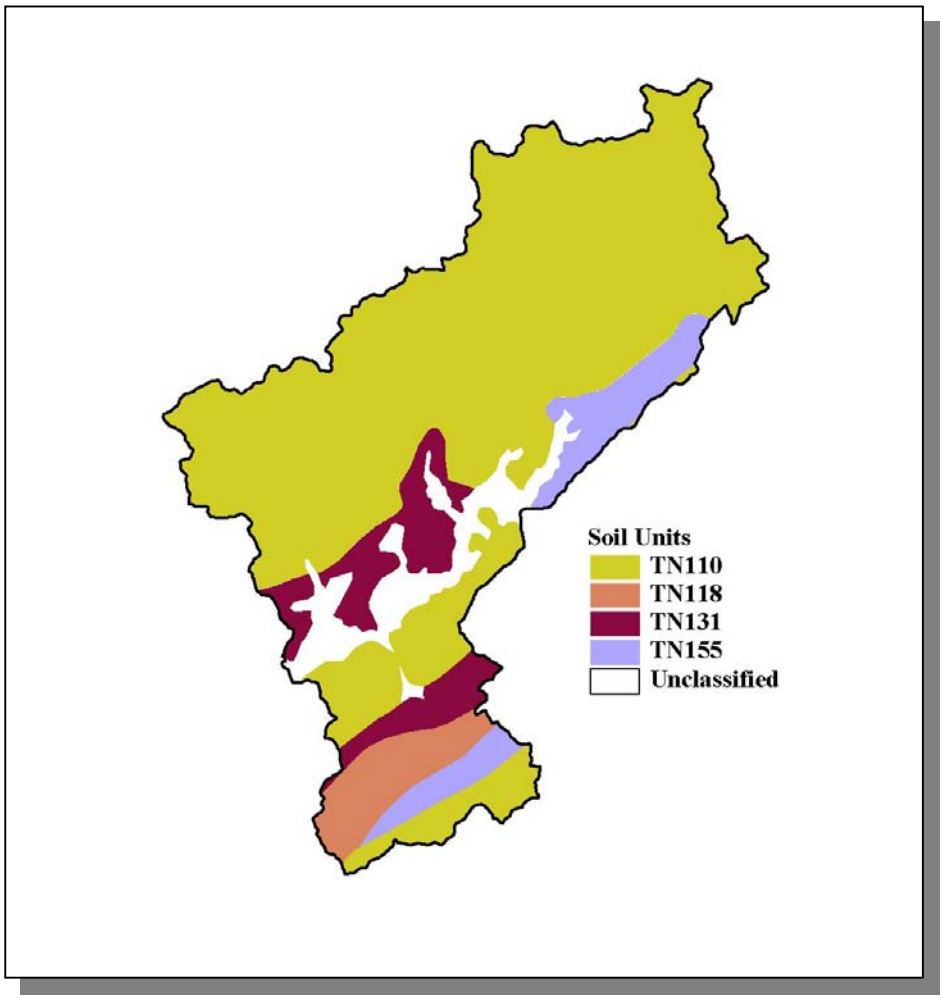


***Figure 4-13. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050102.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |

***Table 4-8. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050102.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

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| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Claiborne | 26,137 | 28,963 | 29,862 | 7.82 | 2,045 | 2,266 | 2,336 | 14.2 |
| Union | 13,694 | 15,956 | 17,808 | 7.78 | 1,066 | 1,242 | 1,386 | 30.0 |
| **Total** | **39,831** | **44,919** | **47,670** | | **3,111** | **3,508** | **3,722** | **19.6** |

***Table 4-9. Population Estimates in Subwatershed 060102050102.***

| | | | NUMBER OF HOUSING UNITS | | | |
|---|---|---|---|---|---|---|
| Populated Place | County | Population | Total | Public Sewer | Septic Tank | Other |
| | | | | | | |
| New Tazewell | Claiborne | 1,864 | 785 | 543 | 236 | 6 |

***Table 4-10. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 060102050102.***

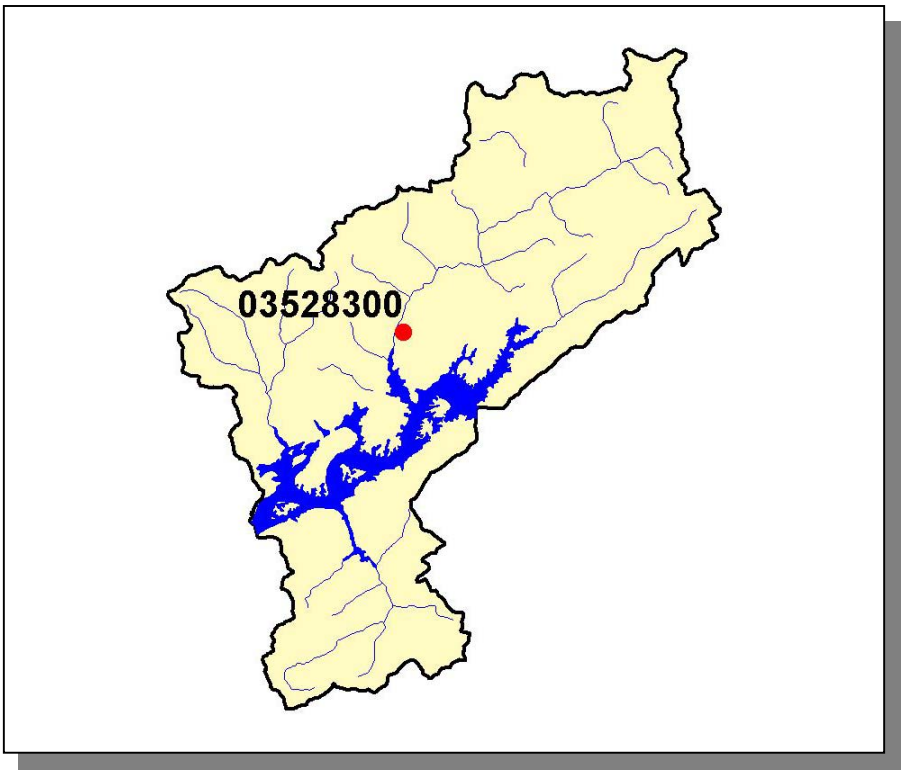


***Figure 4-14. Location of Historical Streamflow Data Collection Sites in Subwatershed 060102050102.*** *More information is provided in Appendix IV.*

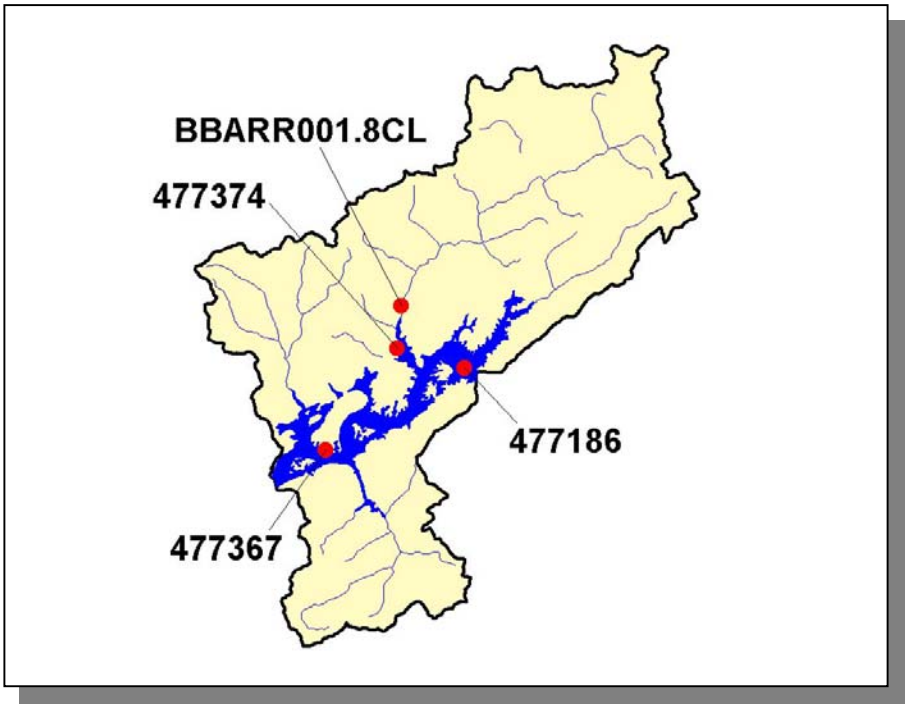


***Figure 4-15. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050102.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.A.ii.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.A.ii.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 2,940 | 5,728 | 152 | 6 | 8 | 30 |

***Table 4-11. Summary of Livestock Count Estimates in Subwatershed 060102050102.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Claiborne | 18,697 | 36,566 | 1,082 | 420 | 0 | 165 |
| Union | 5,540 | 10,575 | 105 | 981 | 93 | 96 |

***Table 4-12. Summary of Livestock Count Estimates in Claiborne, Grainger, and Union Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Claiborne | 167.6 | 167.6 | 2.6 | 12.1 |
| Union | 102.5 | 102.5 | 0.1 | 0.0 |

***Table 4-13. Forest Acreage and Annual Removal Rates (1987-1994) in Claiborne and Union Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.41 |
| Grass (Hayland) | 1.91 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.65 |
| Farmsteads and Ranch Headquarters | 0.36 |

***Table 4-14. Annual Estimated Total Soil Loss in Subwatershed 060102050102.***

4.2.A.iii. 060102050103 (Norris Lake).

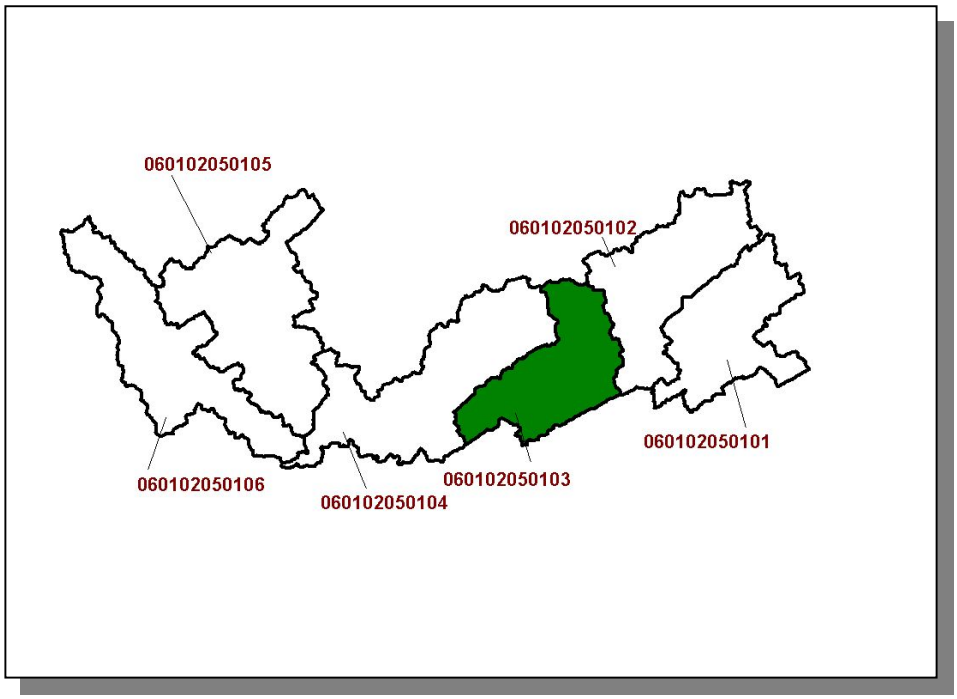


***Figure 4-16. Location of Subwatershed 060102050103.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

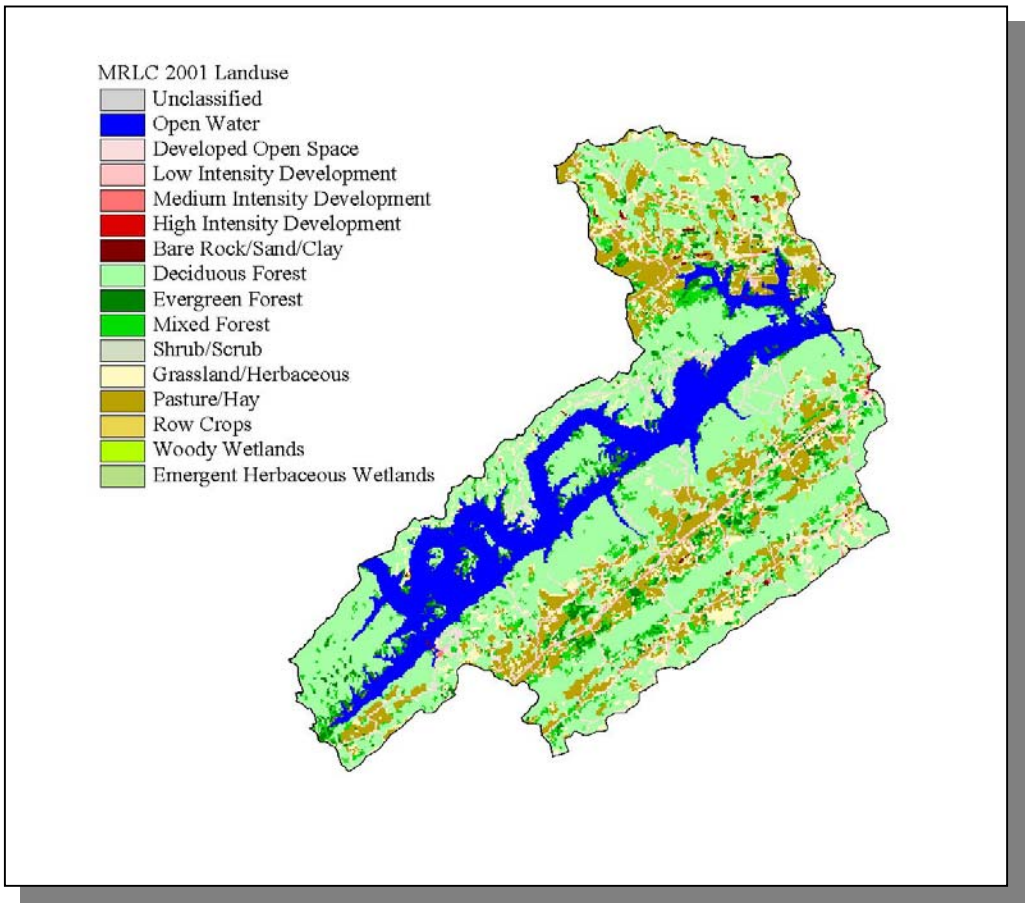


***Figure 4-17. Illustration of Land Use Distribution in Subwatershed 060102050103.***

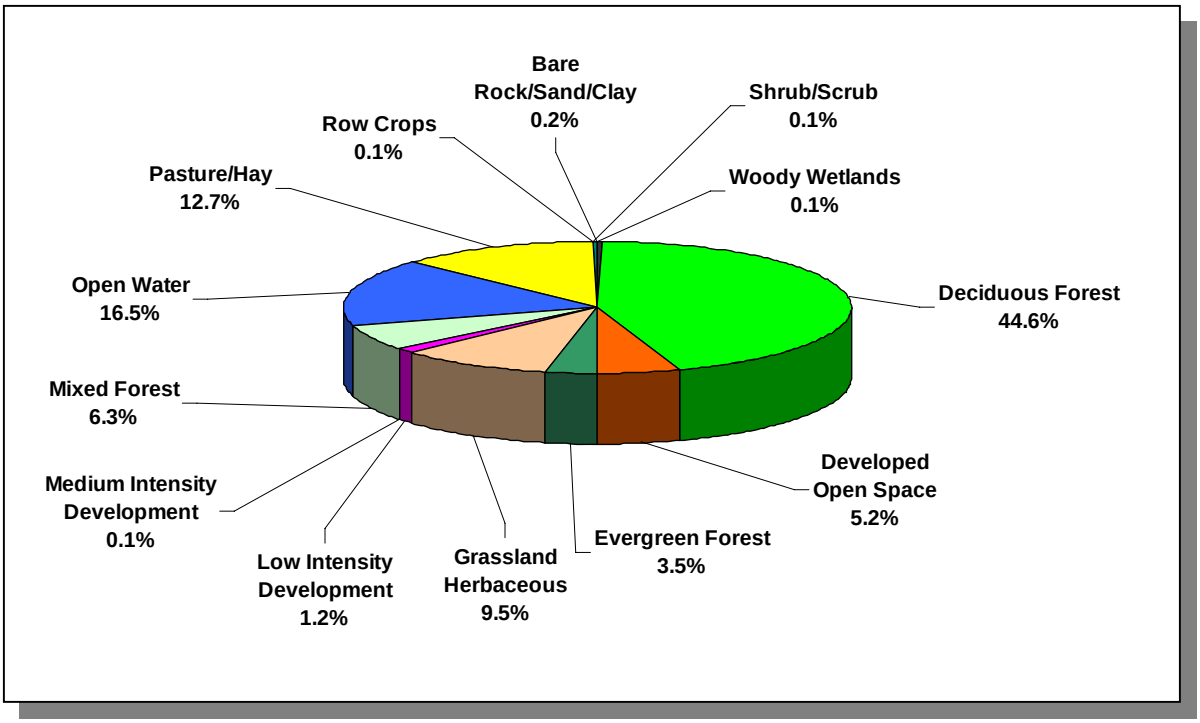


***Figure 4-18. Land Use Distribution in Subwatershed 060102050103.*** *More information is provided in Appendix IV.*

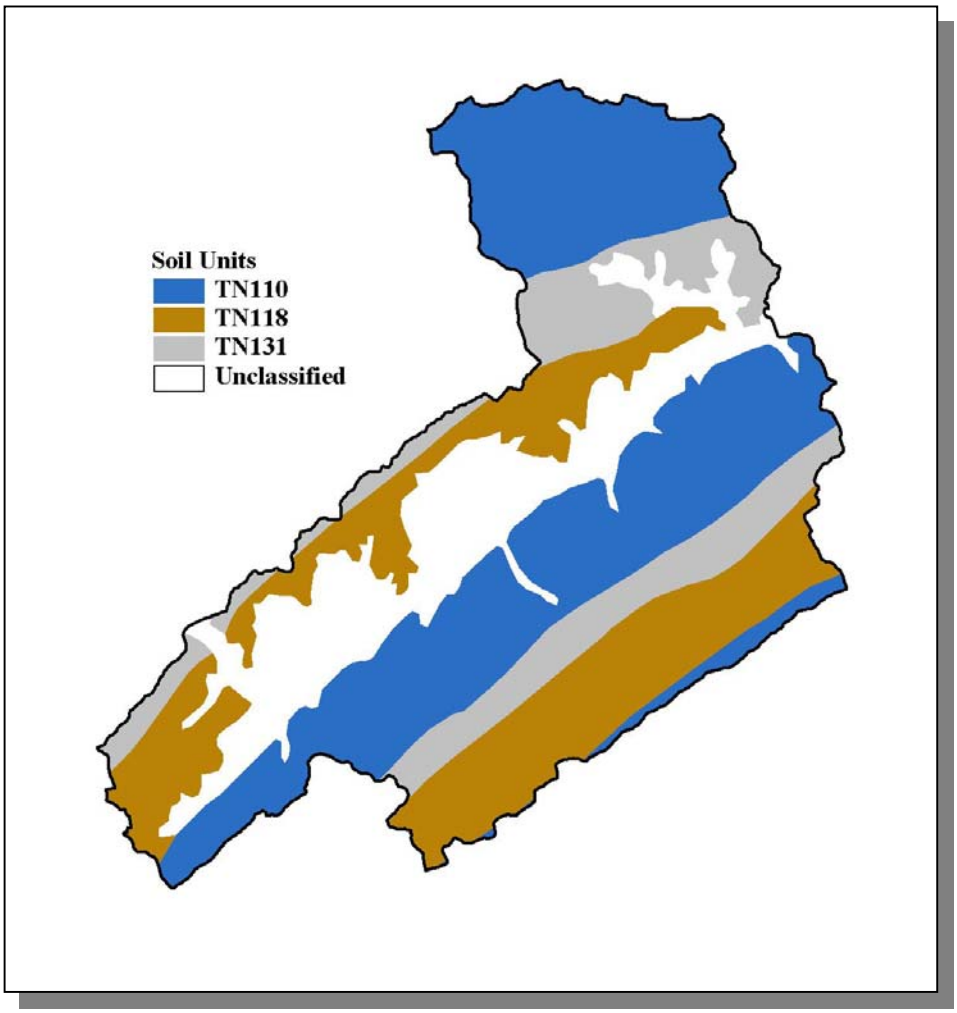


***Figure 4-19. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050103.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |

***Table 4-15. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050103.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

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| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Union | 13,694 | 15,956 | 17,808 | 19.12 | 2,618 | 3,051 | 3,405 | 30.1 |

***Table 4-16. Population Estimates in Subwatershed 060102050103.***

| | | | NUMBER OF HOUSING UNITS | | | |
|---|---|---|---|---|---|---|
| Populated Place | County | Population | Total | Public Sewer | Septic Tank | Other |
| | | | | | | |
| Maynardville | Union | 1,298 | 544 | 366 | 173 | 5 |

***Table 4-17. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 060102050103.***

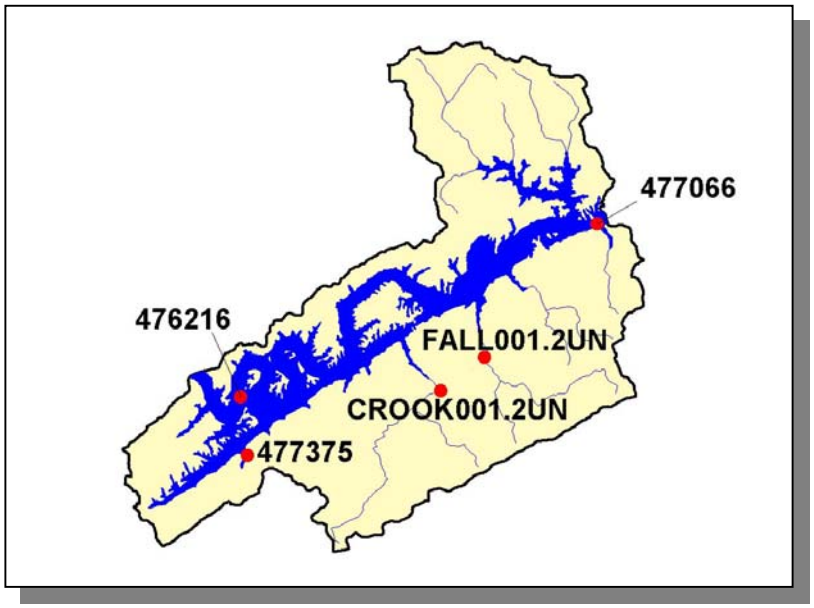


***Figure 4-20. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050103.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.A.iii.a. Point Source Contributions.

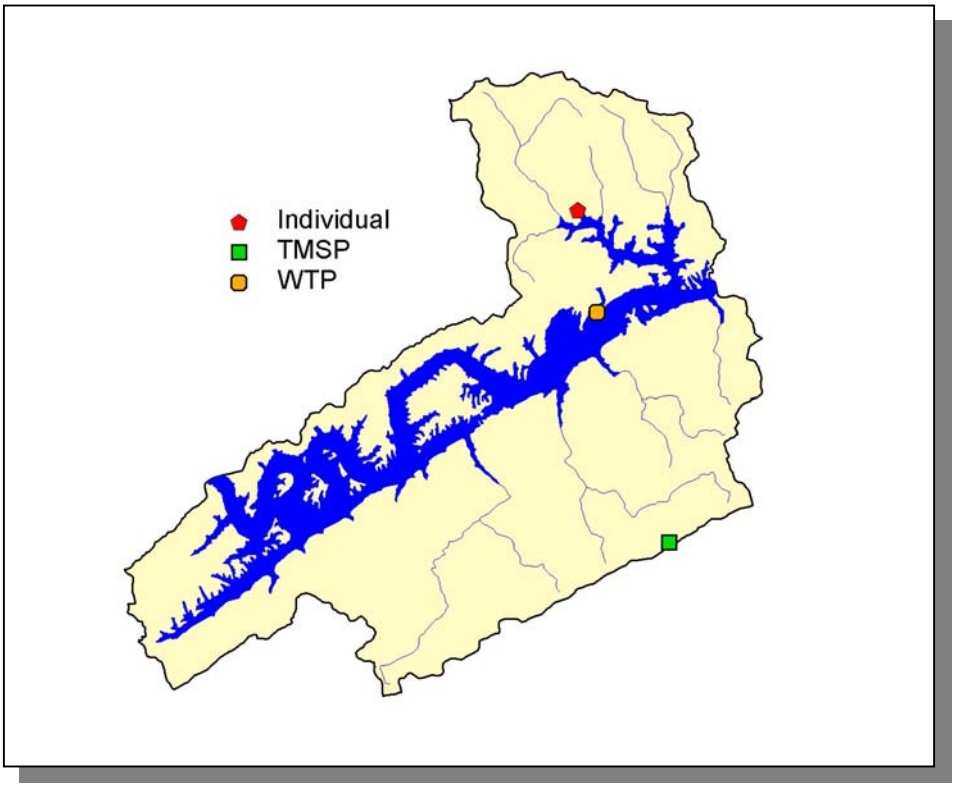


***Figure 4-21. Location of Permits Issued in Subwatershed 060102050103.*** *More information, including the names of facilities, is provided in Appendix IV.*

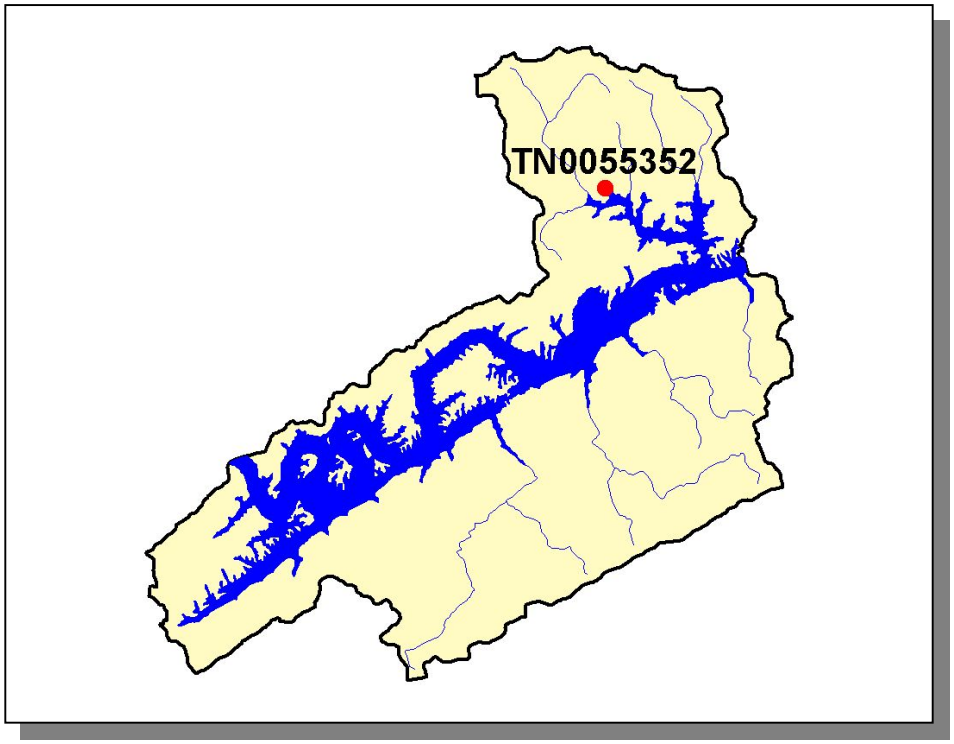


***Figure 4-22. Location of Active NPDES Sites in Subwatershed 060102050103.*** *More information, including the names of facilities, is provided in Appendix IV.*

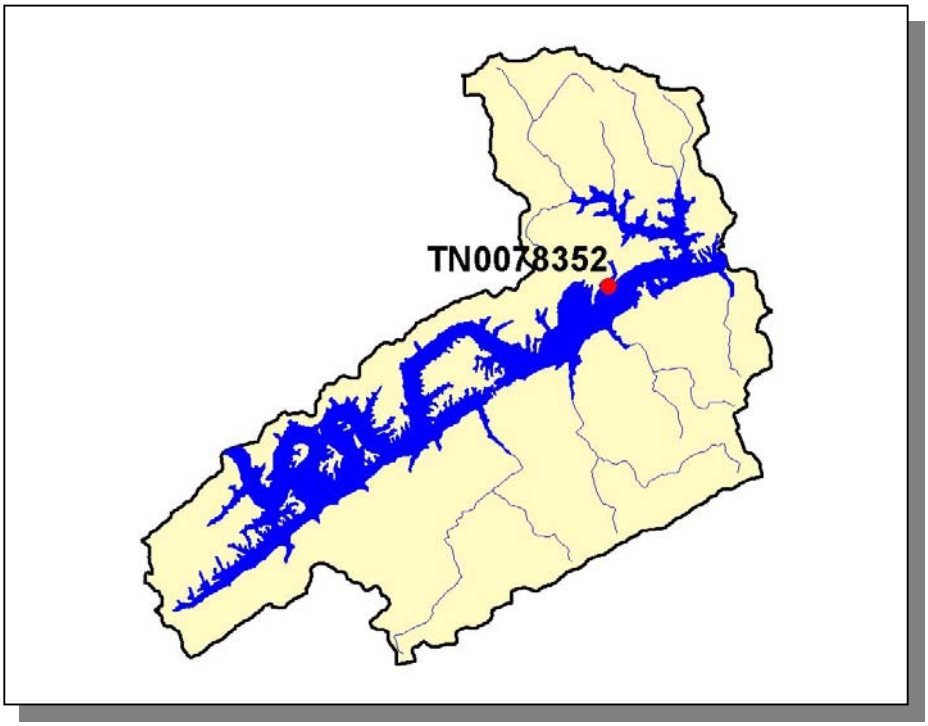


***Figure 4-23. Location of Water Treatment Plants in Subwatershed 060102050103.*** *More information, including the names of facilities, is provided in Appendix IV.*

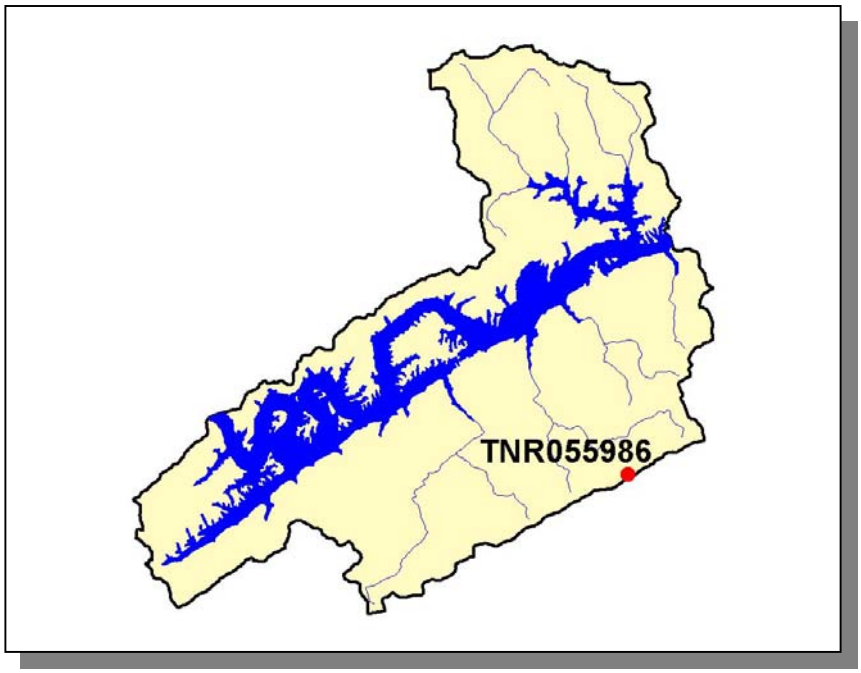


***Figure 4-24. Location of TMSP Sites in Subwatershed 060102050103.*** *More information, including the names of facilities, is provided in Appendix IV.*

4.2.A.iii.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 060102060103:

- TN0078352 (Hallsdale-Powell-Norris WTP) discharges to the Clinch River @ RM 116

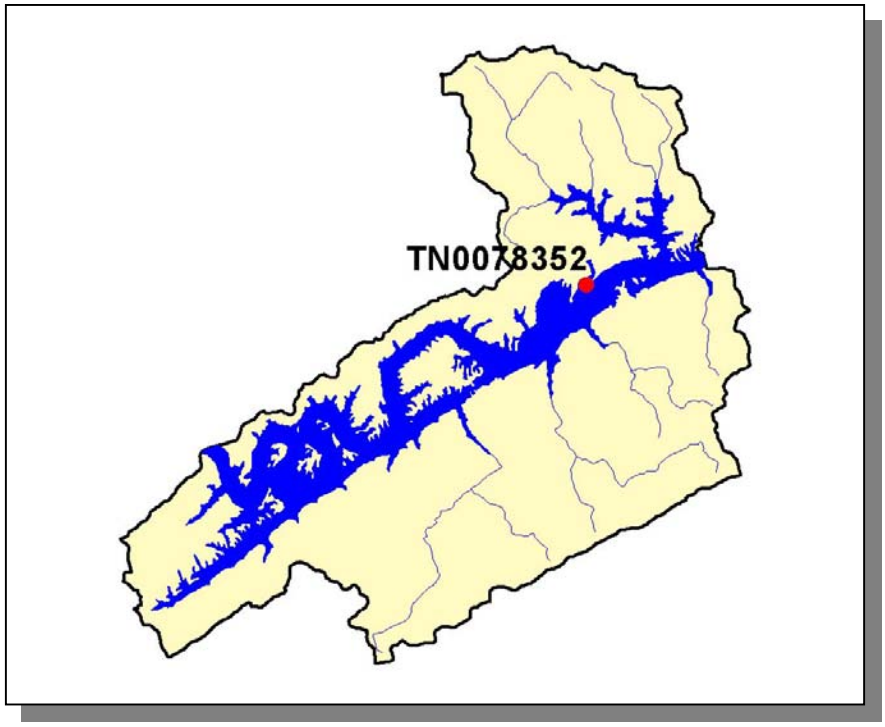


***Figure 4-25. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 060102050103.*** *More information, including the names of facilities, is provided in Appendix IV.*

| PERMIT # | FLOW | AI |
|---|---|---|
| TN0078352 | X | X |

***Table 4-18. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050103.***

| PERMIT # | TRC | TSS | SETTLEABLE SOLIDS | pH |
|---|---|---|---|---|
| TN0078352 | X | X | X | X |

***Table 4-19. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050103.*** *TRC, Total Residual Chlorine; TSS, Total Suspended Solids.*

4.2.A.iii.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 1,024 | 1,955 | 19 | <5 | 17 | 18 |

***Table 4-20. Summary of Livestock Count Estimates in Subwatershed 060102050103.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Union | 5,540 | 10,575 | 105 | 981 | 93 | 96 |

***Table 4-21. Summary of Livestock Count Estimates in Union County.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Union | 102.5 | 102.5 | 0.1 | 0.0 |

***Table 4-22. Forest Acreage and Annual Removal Rates (1987-1994) in Union County.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.46 |
| Grass (Hayland) | 1.91 |
| Grass, Forbs, Legumes (Mixed Pasture) | 1.66 |
| Farmsteads and Ranch Headquarters | 0.22 |

***Table 4-23. Annual Estimated Total Soil Loss in Subwatershed 060102050103.***

4.2.A.iv. 060102050104 (Norris Lake).

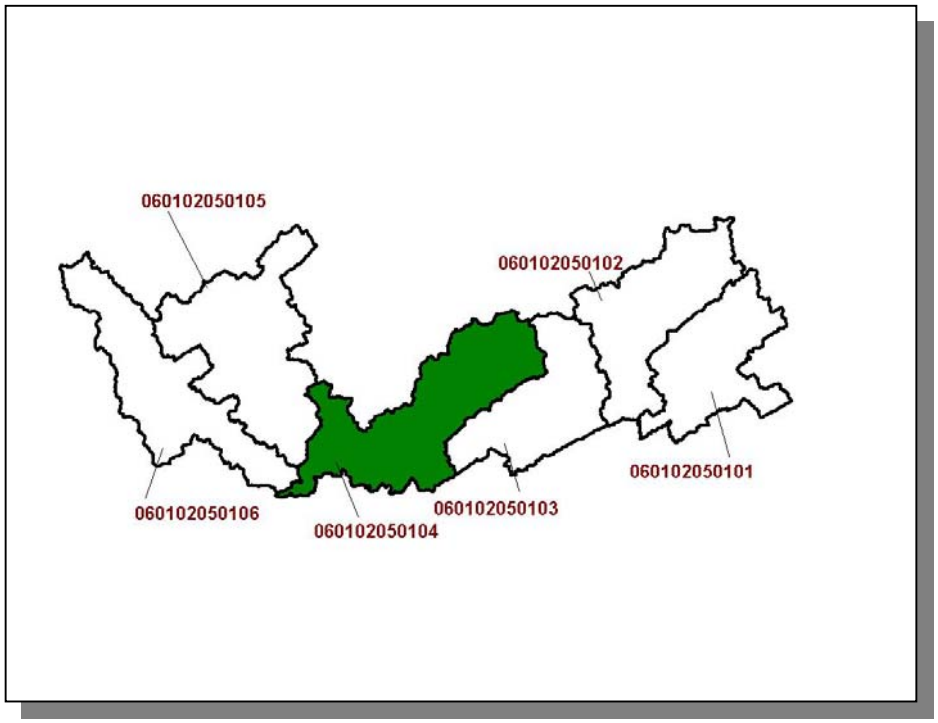


***Figure 4-26. Location of Subwatershed 060102050104.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

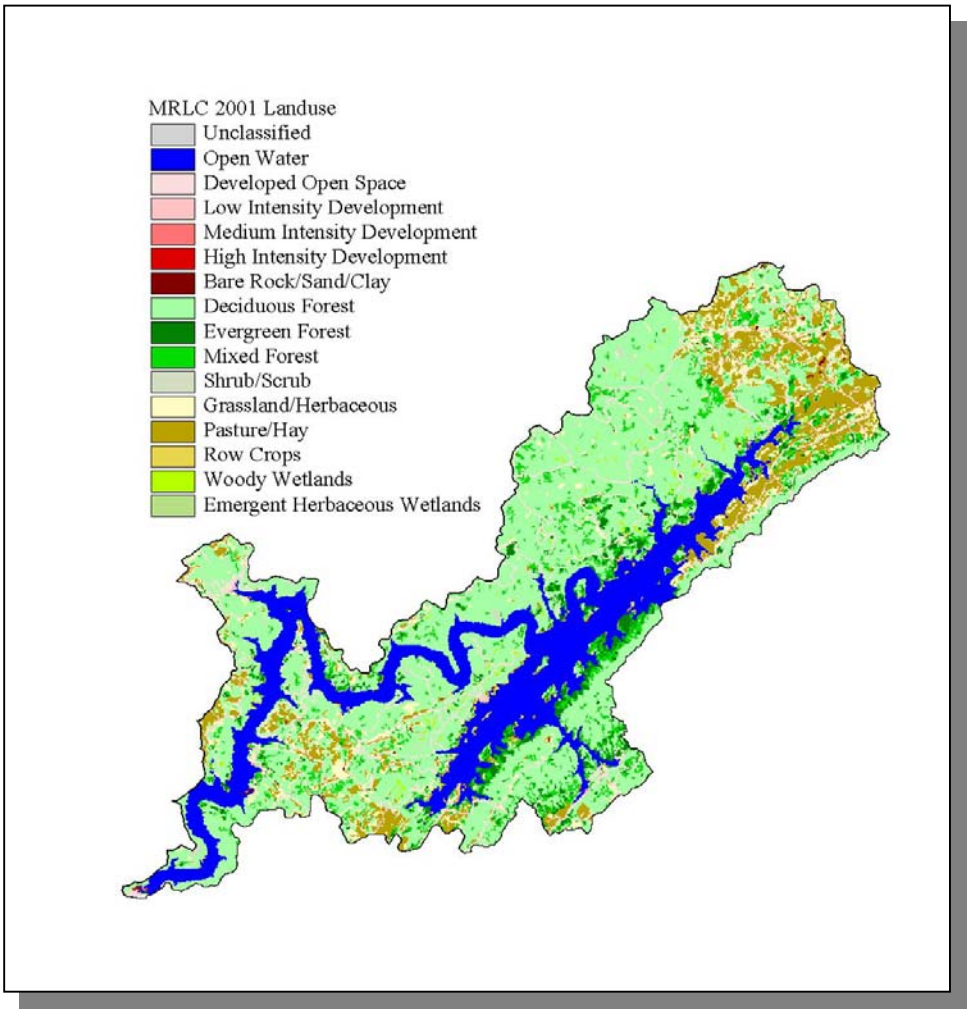


***Figure 4-27. Illustration of Land Use Distribution in Subwatershed 060102050104.***

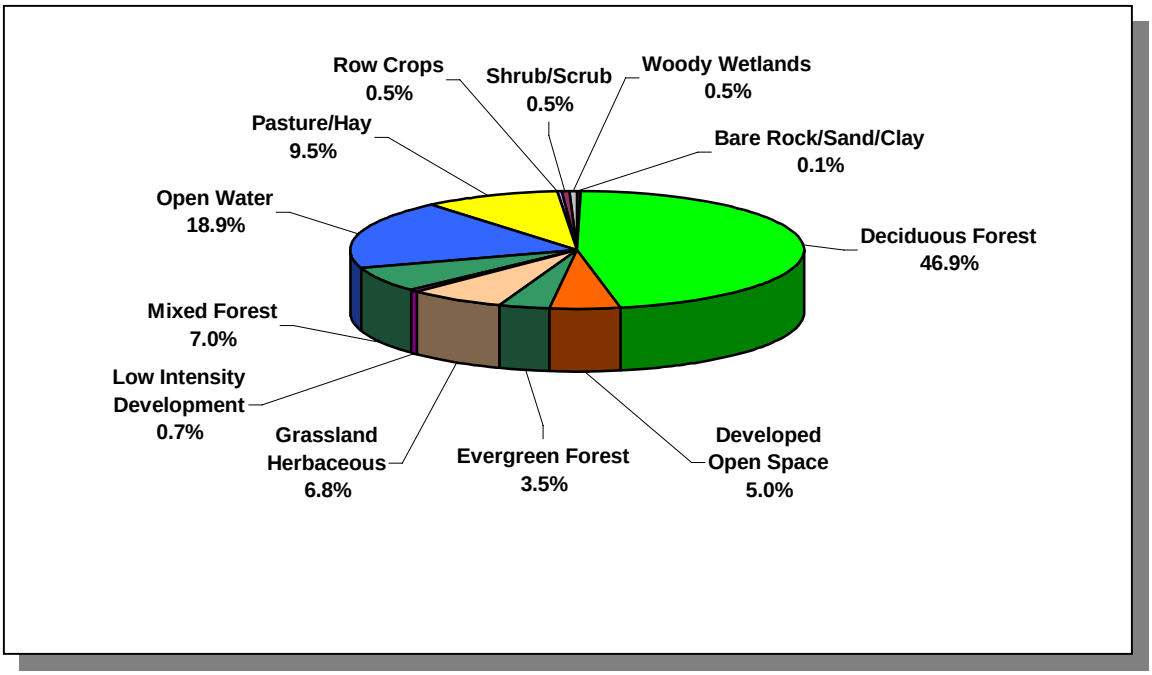


***Figure 4-28. Land Use Distribution in Subwatershed 060102050104.*** *More information is provided in Appendix IV.*

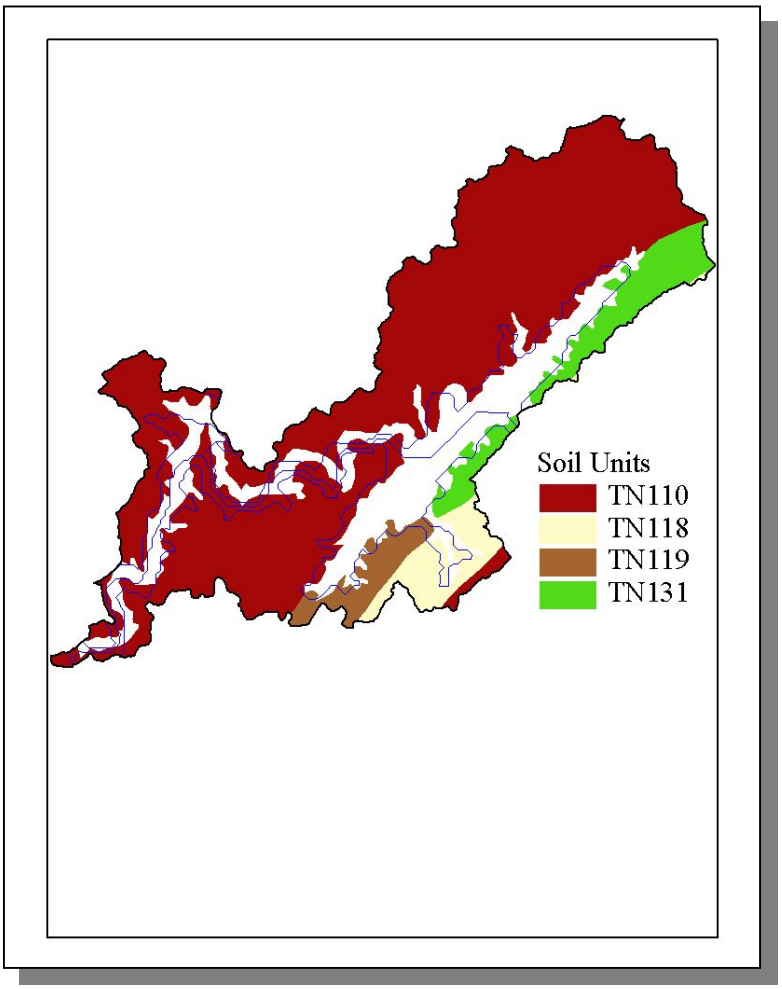


***Figure 4-29. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050104.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN119 | 2.00 | C | 1.08 | 5.15 | Loam | 0.33 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |

***Table 4-24. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050104.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Anderson | 68,250 | 71,498 | 71,330 | 2.52 | 1,719 | 1,801 | 1,797 | 4.5 |
| Campbell | 35,079 | 37,878 | 39,854 | 2.33 | 818 | 883 | 929 | 13.6 |
| Union | 13,694 | 15,956 | 17,808 | 20.82 | 2,851 | 3,322 | 3,707 | 30.0 |
| **Total** | **117,023** | **125,332** | **128,992** | | **5,388** | **6,006** | **6,433** | **19.4** |

***Table 4-25. Population Estimates in Subwatershed 060102050104.***

| | | | NUMBER OF HOUSING UNITS | | | |
|---|---|---|---|---|---|---|
| Populated Place | County | Population | Total | Public Sewer | Septic Tank | Other |
| | | | | | | |
| Norris | Anderson | 1,303 | 622 | 505 | 117 | 0 |

***Table 4-26. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 060102050104.***

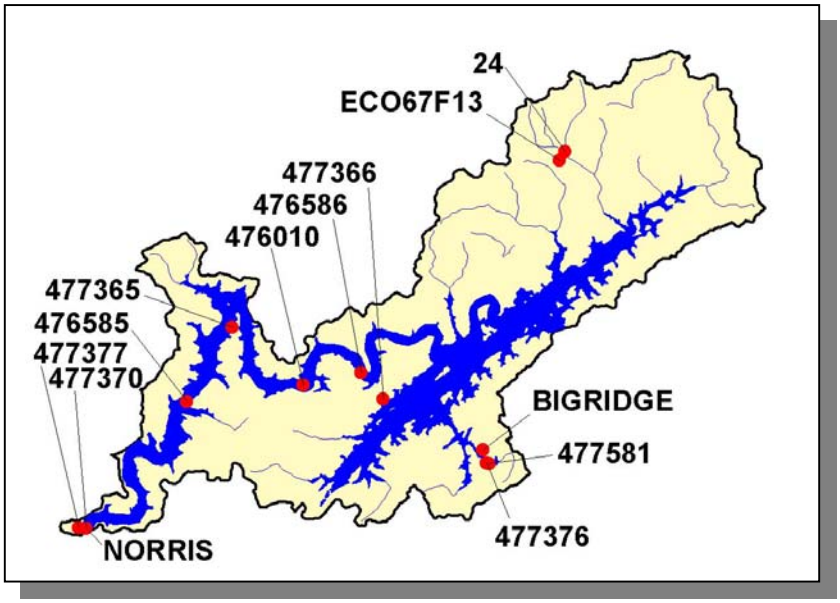


***Figure 4-30. Location of Historical Streamflow Data Collection Sites in Subwatershed 060102050104.*** *More information is provided in Appendix IV.*

4.2.A.iv.a. Point Source Contributions.

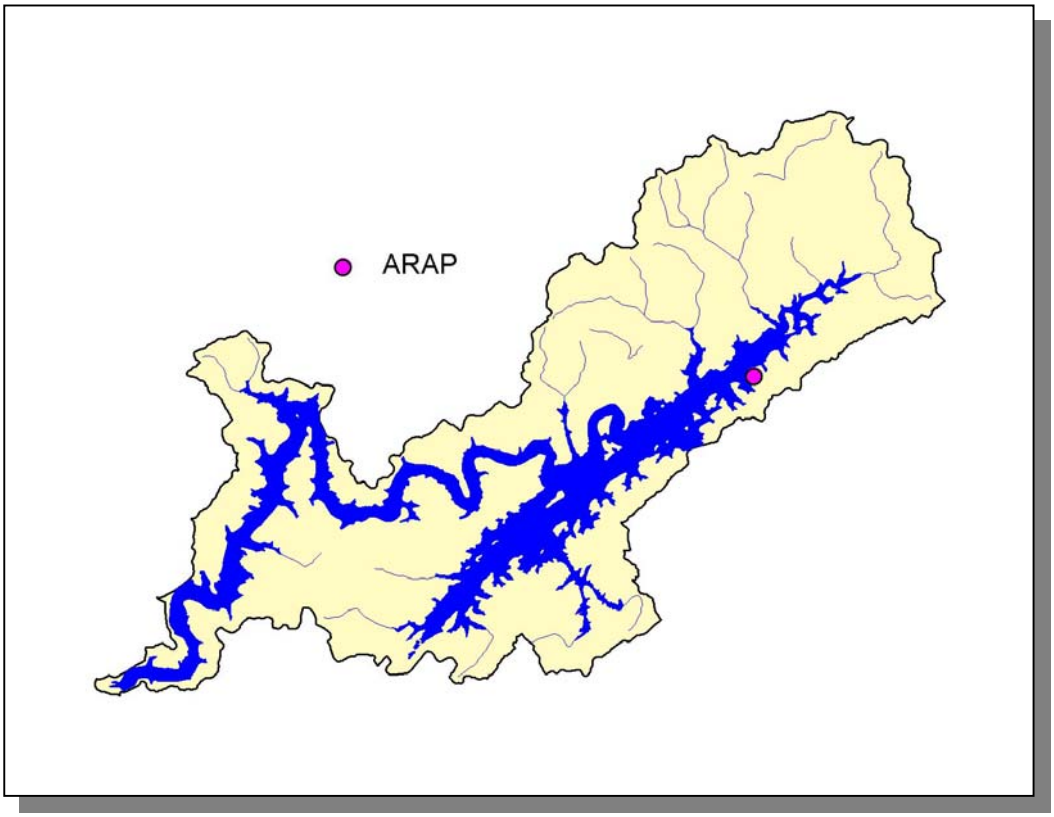


***Figure 4-31. Location of Permits Issued in Subwatershed 060102050104.*** *More information, including the names of facilities, is provided in Appendix IV.*

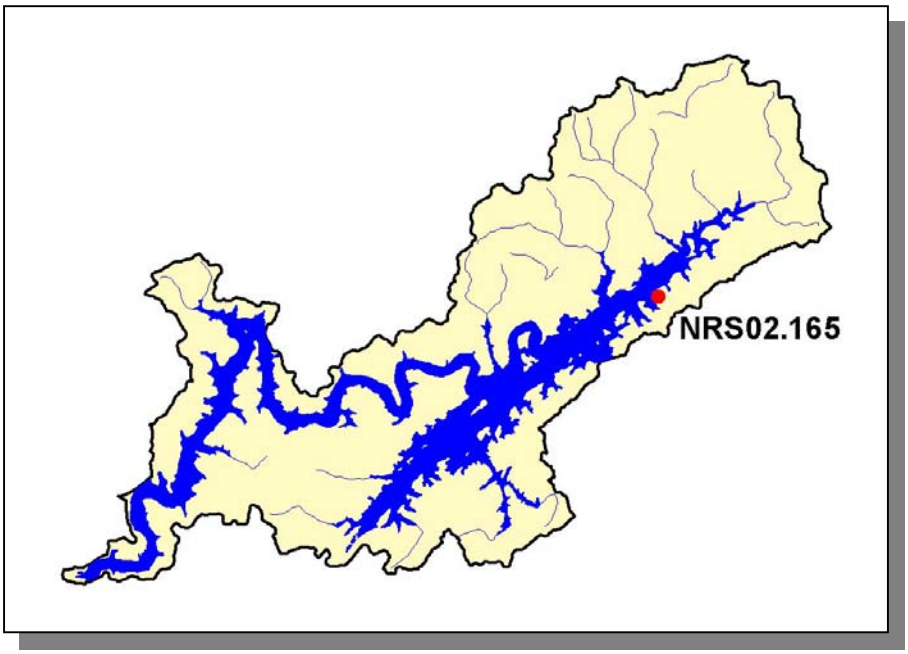


***Figure 4-32. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 060102050104.*** *More information is provided in Appendix IV.*

4.2.A.iv.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 1,495 | 2,978 | 61 | 8 | 15 | 32 |

***Table 4-27. Summary of Livestock Count Estimates in Subwatershed 060102050104.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Anderson | 4,449 | 9,458 | 335 | 769 | 0 | 135 |
| Campbell | 4,083 | 7,684 | 66 | 8 | 14 | 0 |
| Union | 5,540 | 10,575 | 105 | 981 | 93 | 96 |

***Table 4-28. Summary of Livestock Count Estimates in Anderson, Campbell, and Union Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Anderson | 124.0 | 124.0 | 2.6 | 6.2 |
| Campbell | 250.3 | 250.2 | 2.6 | 10.6 |
| Union | 102.5 | 102.5 | 0.1 | 0.0 |

***Table 4-29. Forest Acreage and Annual Removal Rates (1987-1994) in Anderson, Campbell, and Union Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.79 |
| Grass (Hayland) | 1.75 |
| Legumes, Grass (Hayland) | 1.68 |
| Legumes (Hayland) | 1.07 |
| Grass, Forbs, Legumes (Mixed Pasture) | 1.84 |
| Tobacco (Row Crops) | 9.37 |
| Other Vegetable and Truck Crops | 7.05 |
| Other Land in Farms | 0.23 |
| Farmsteads and Ranch Headquarters | 0.29 |

***Table 4-30. Annual Estimated Total Soil Loss in Subwatershed 060102050104.***

4.2.A.v. 060102050105 (Big Creek).

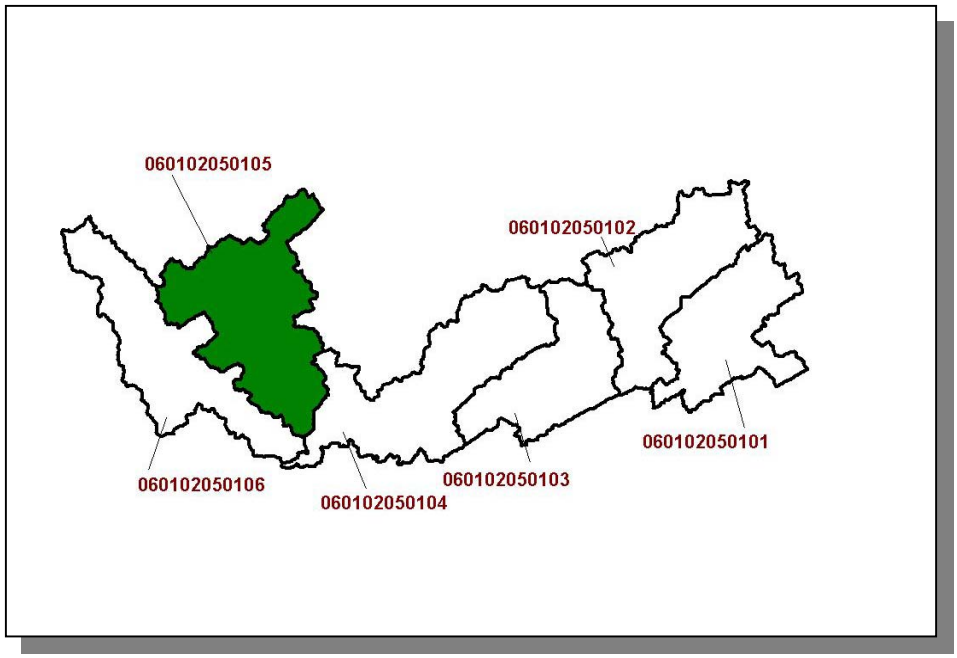


***Figure 4-33. Location of Subwatershed 060102050105.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

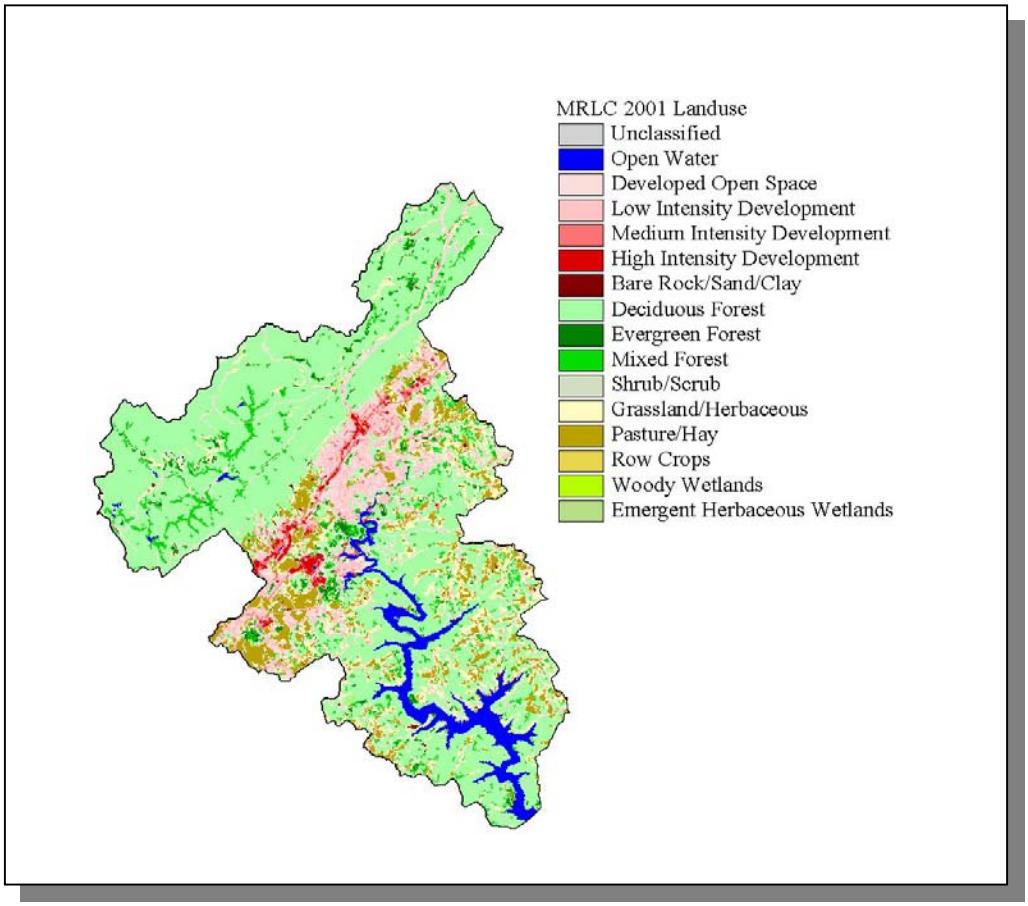


***Figure 4-34. Illustration of Land Use Distribution in Subwatershed 060102050105.***

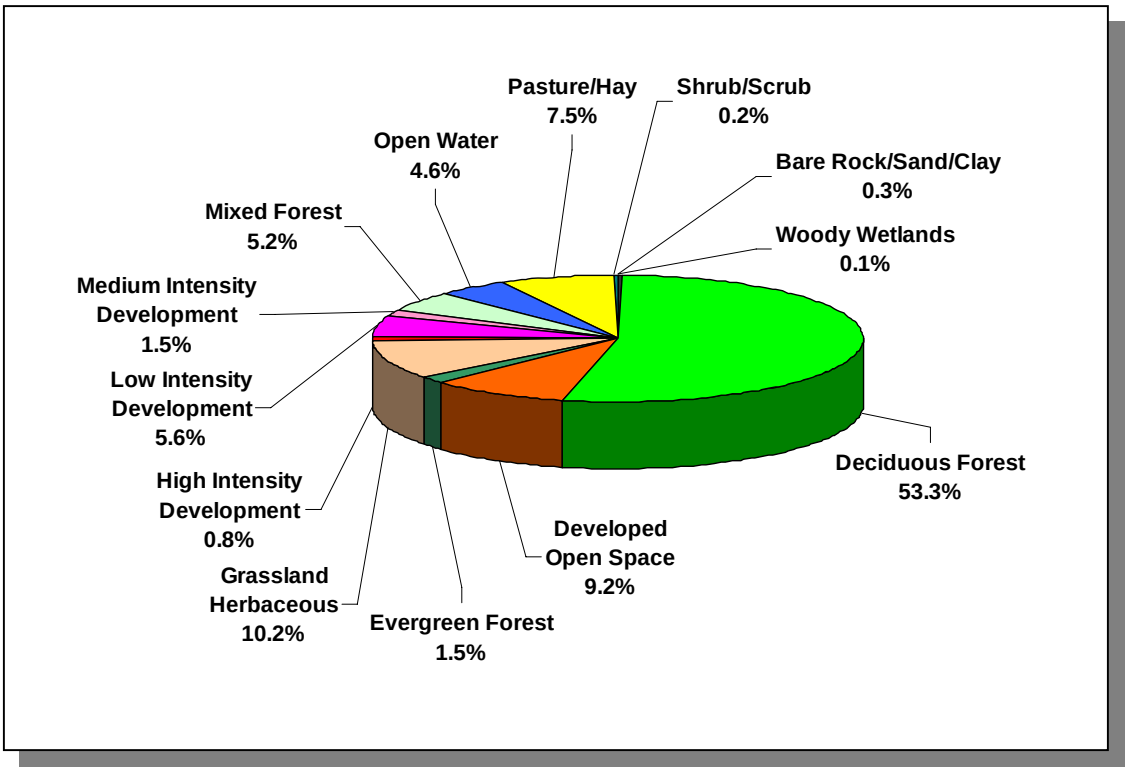


***Figure 4-35. Land Use Distribution in Subwatershed 060102050105.*** *More information is provided in Appendix IV.*

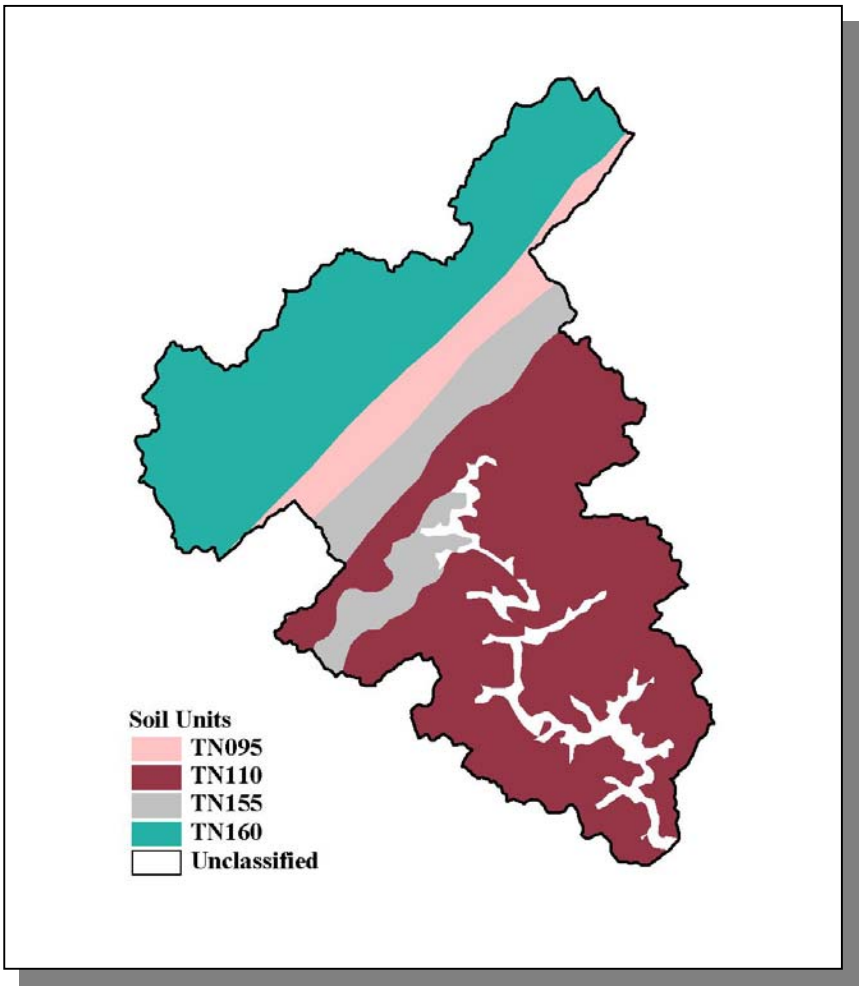


***Figure 4-36. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050105.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN095 | 0.00 | B | 2.35 | 5.12 | Loam | 0.31 |
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN160 | 0.00 | B | 2.69 | 5.36 | Loam | 0.25 |

***Table 4-31. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050105.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

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| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Campbell | 35,079 | 37,878 | 39,854 | 14.12 | 4,954 | 5,350 | 5,629 | 13.6 |

***Table 4-32. Population Estimates in Subwatershed 060102050105.***

| | | | NUMBER OF HOUSING UNITS | | | |
|---|---|---|---|---|---|---|
| Populated Place | County | Population | Total | Public Sewer | Septic Tank | Other |
| | | | | | | |
| Caryville | Campbell | 1,750 | 736 | 439 | 281 | 16 |
| Jacksboro | Campbell | 1,568 | 650 | 519 | 127 | 4 |
| LaFollette | Campbell | 7,192 | 3,116 | 2,745 | 366 | 5 |
| **Total** | | **10.510** | **4,502** | **3,703** | **774** | **25** |

***Table 4-33. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 060102050105.***

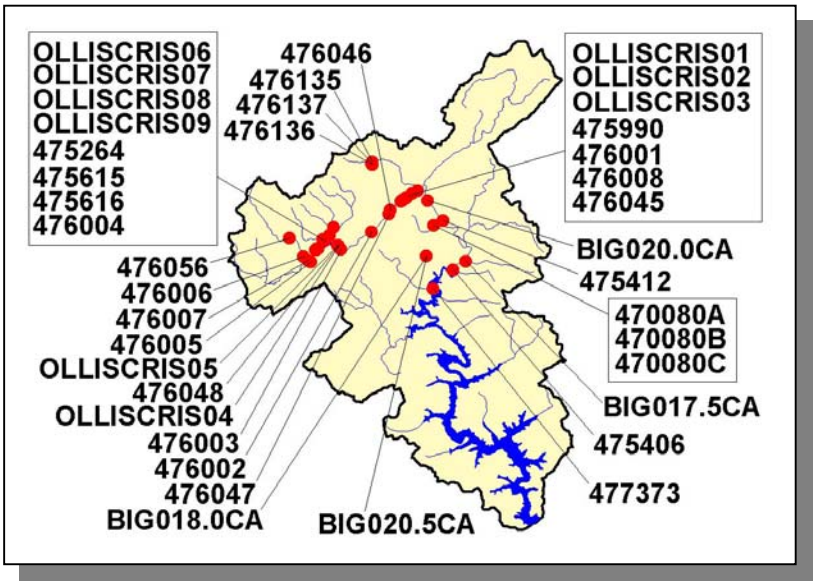


***Figure 4-37. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050105.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.A.v.a. Point Source Contributions.

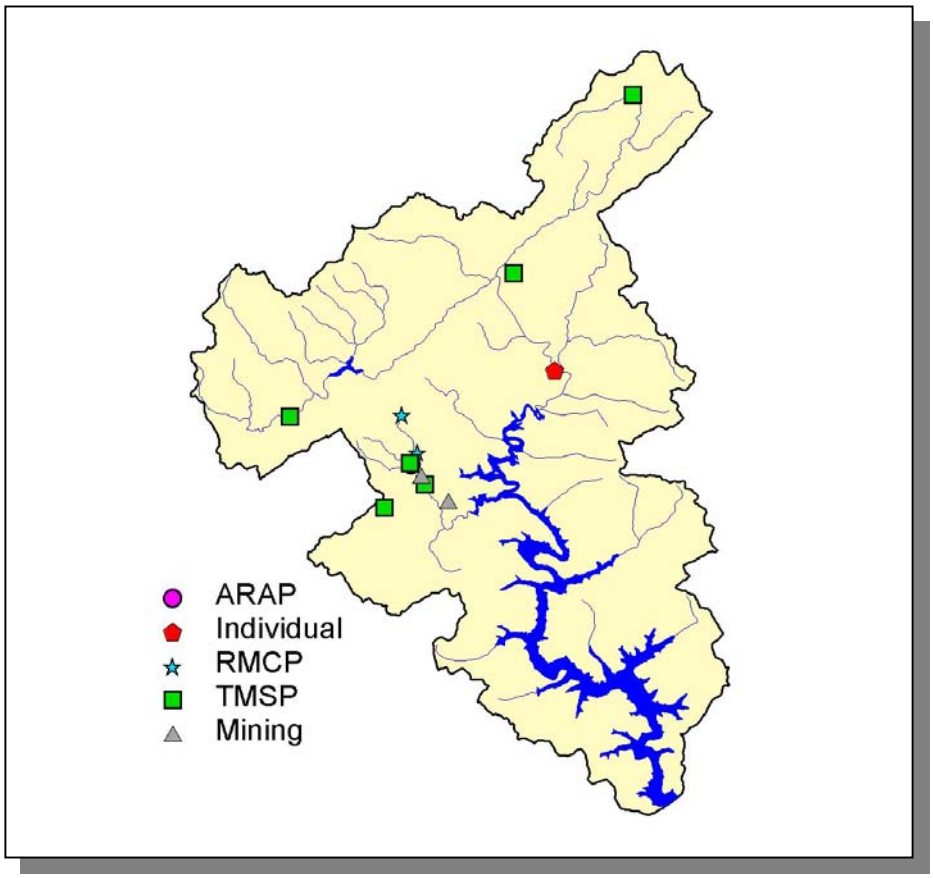


***Figure 4-38. Location of Permits Issued in Subwatershed 060102050105.*** *More information, including the names of facilities, is provided in Appendix IV.*

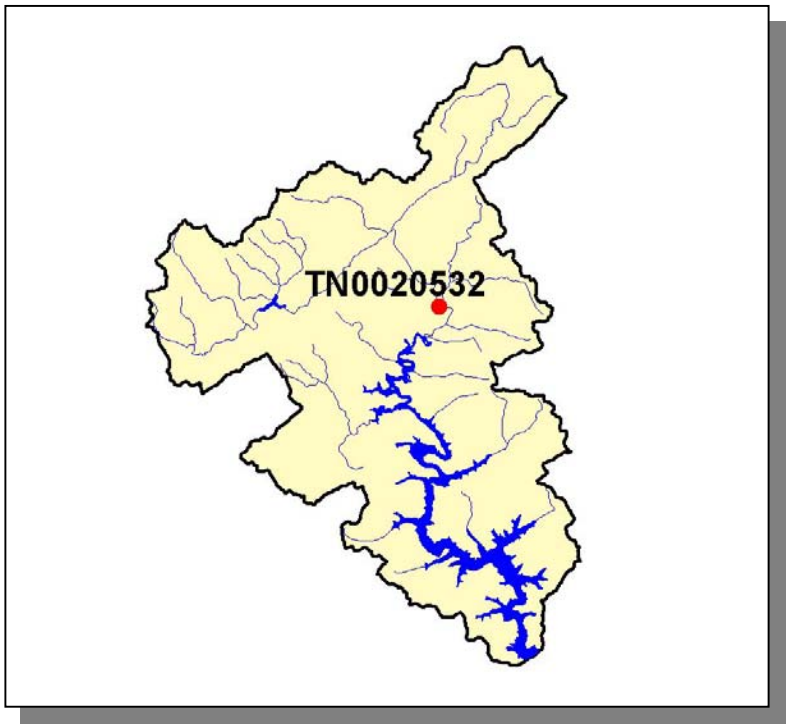


***Figure 4-39. Location of Active NPDES Sites in Subwatershed 060102050105.*** *More information, including the names of facilities, is provided in Appendix IV.*

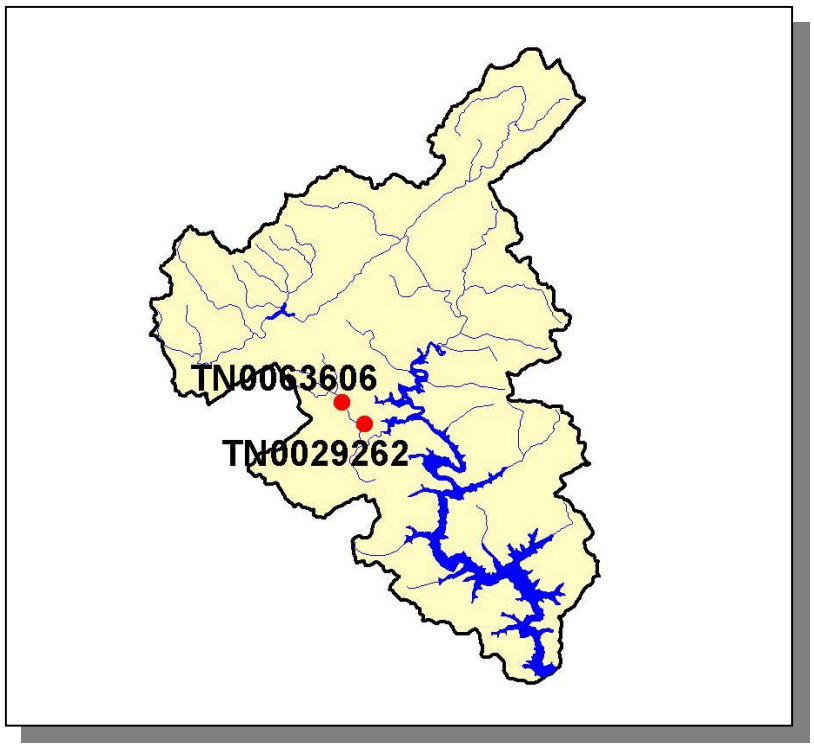


***Figure 4-40. Location of Active Mining Sites in Subwatershed 060102050105.*** *More information, including the names of mining operations, is provided in Appendix IV.*

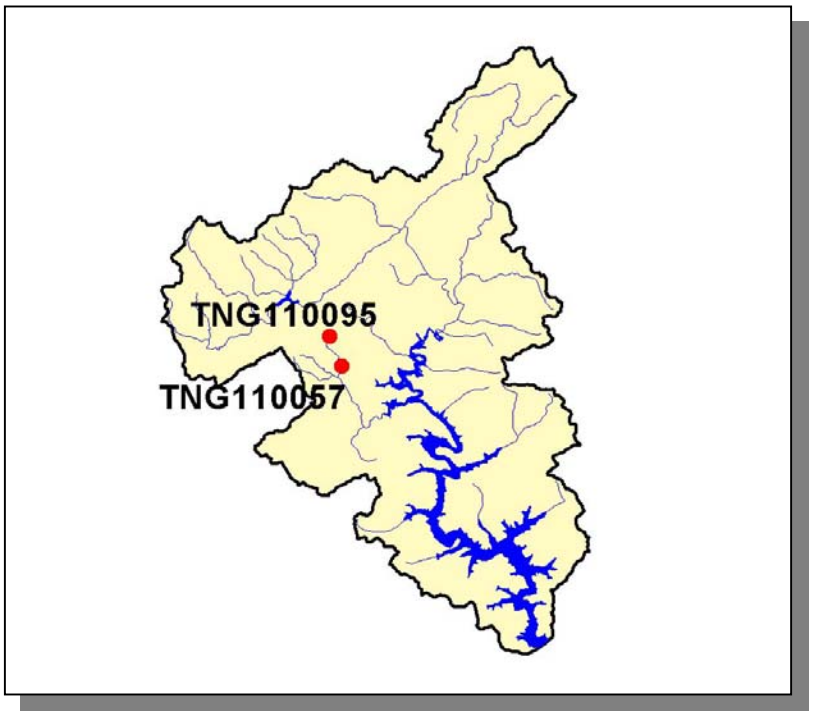


***Figure 4-41. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 060102050105.*** *More information is provided in Appendix IV.*

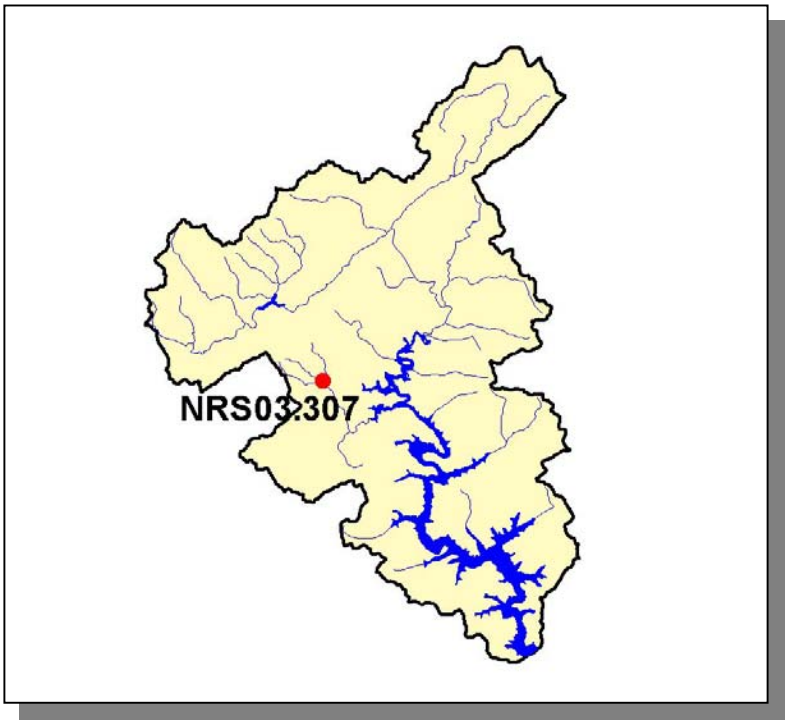


***Figure 4-42. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 060102050105.*** *More information is provided in Appendix IV.*

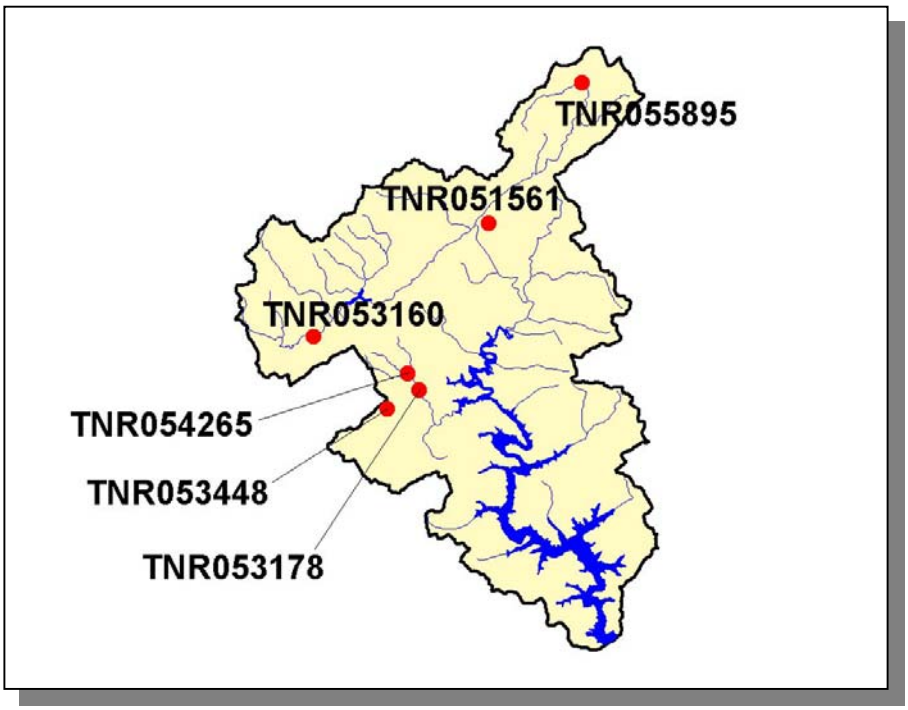


***Figure 4-43. Location of TMSP Sites in Subwatershed 060102050105.*** *More information, including the names of facilities, is provided in Appendix IV.*

4.2.A.v.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 060102060105:

- TN0020532 (LaFollette STP) discharges to Big Creek @ RM 17.1

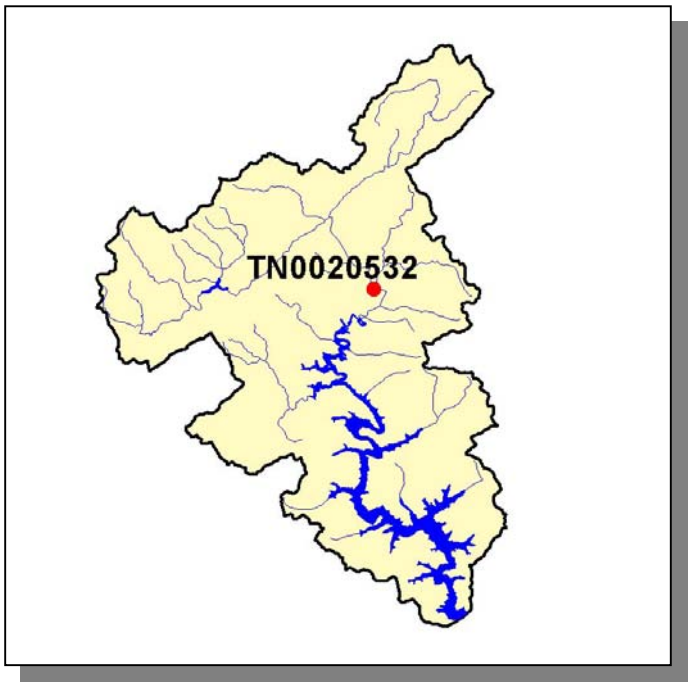


***Figure 4-44. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 060102050105.*** *More information, including the names of facilities, is provided in Appendix IV.*

| PERMIT # | 1Q10 | 3Q10 | 7Q10 | 3Q20 | QDESIGN |
|---|---|---|---|---|---|
| TN0020532 | | | 0.3 | | |

***Table 4-34. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050105.*** *Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.*

| PERMIT # | P | N | FLOW |
|---|---|---|---|
| TN0020532 | X | X | X |

***Table 4-35. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050105.***

| PERMIT # | WET | $CBOD_5$ | *E. coli* | $NH_3$ | TRC | TSS | SETTLEABLE SOLIDS | DO | pH |
|---|---|---|---|---|---|---|---|---|---|
| TN0020532 | X | X | X | X | X | X | X | X | X |

***Table 4-36. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050105.*** *WET, Whole Effluent Toxicity; $CBOD_5$, Carbonaceous Biochemical Oxygen Demand (5-Day); TRC, Total Residual Chlorine; TSS, Total Suspended Solids.*

4.2.A.v.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | |
|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs |
| | | | | |
| 847 | 1,593 | 14 | <5 | <5 |

***Table 4-37. Summary of Livestock Count Estimates in Subwatershed 060102050105.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs |
| | | | | | |
| Campbell | 4,083 | 7,684 | 66 | 8 | 14 |

***Table 4-38. Summary of Livestock Count Estimates in Campbell County.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Campbell | 250.3 | 250.2 | 2.6 | 10.6 |

***Table 4-39. Forest Acreage and Annual Removal Rates (1987-1994) in Campbell County.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 1.73 |
| Grass (Hayland) | 1.78 |
| Legumes, Grass (Hayland) | 0.44 |
| Grass, Forbs, Legumes (Mixed Pasture) | 2.74 |
| Tobacco (Row Crops) | 15.11 |
| Other Vegetable and Truck Crops | 3.33 |
| Farmsteads and Ranch Headquarters | 0.07 |

***Table 4-40. Annual Estimated Total Soil Loss in Subwatershed 051302050105.***

4.2.A.vi. 060102050106 (Cove Creek).

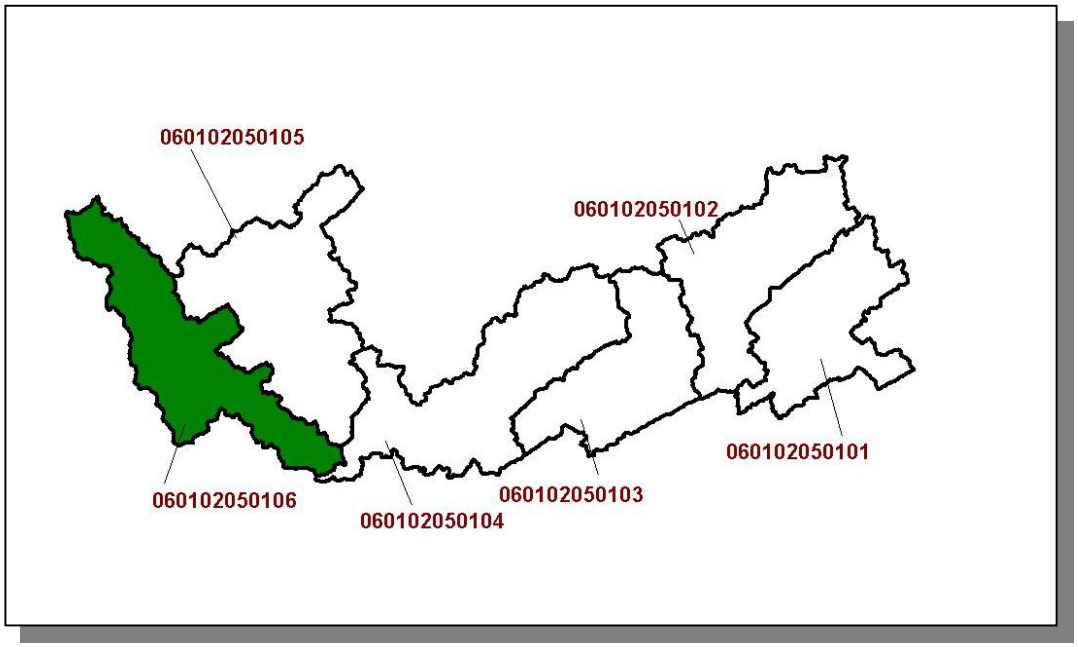


***Figure 4-45. Location of Subwatershed 060102050106.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

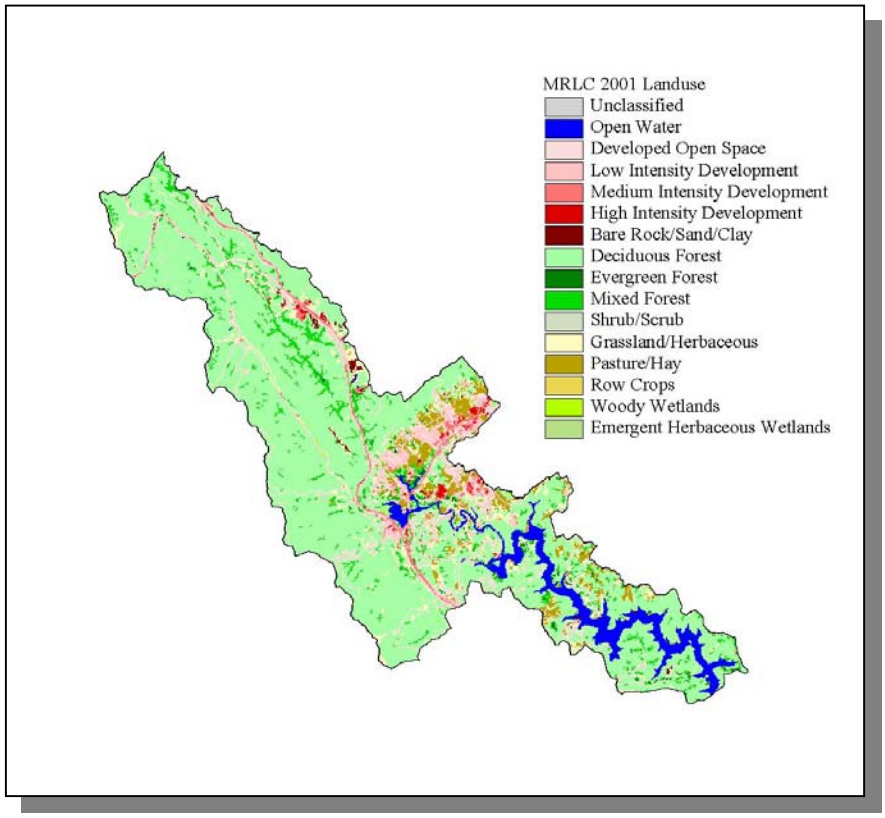


***Figure 4-46. Illustration of Land Use Distribution in Subwatershed 060102050106.***

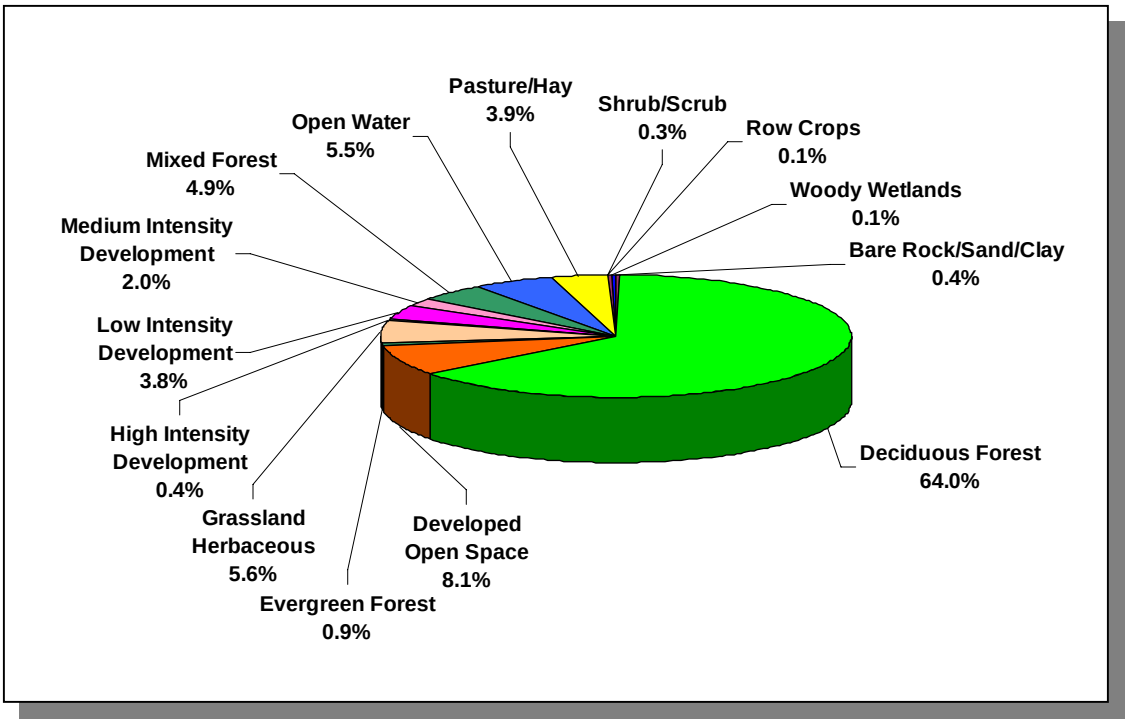


***Figure 4-47. Land Use Distribution in Subwatershed 060102050106.*** *More information is provided in Appendix IV.*

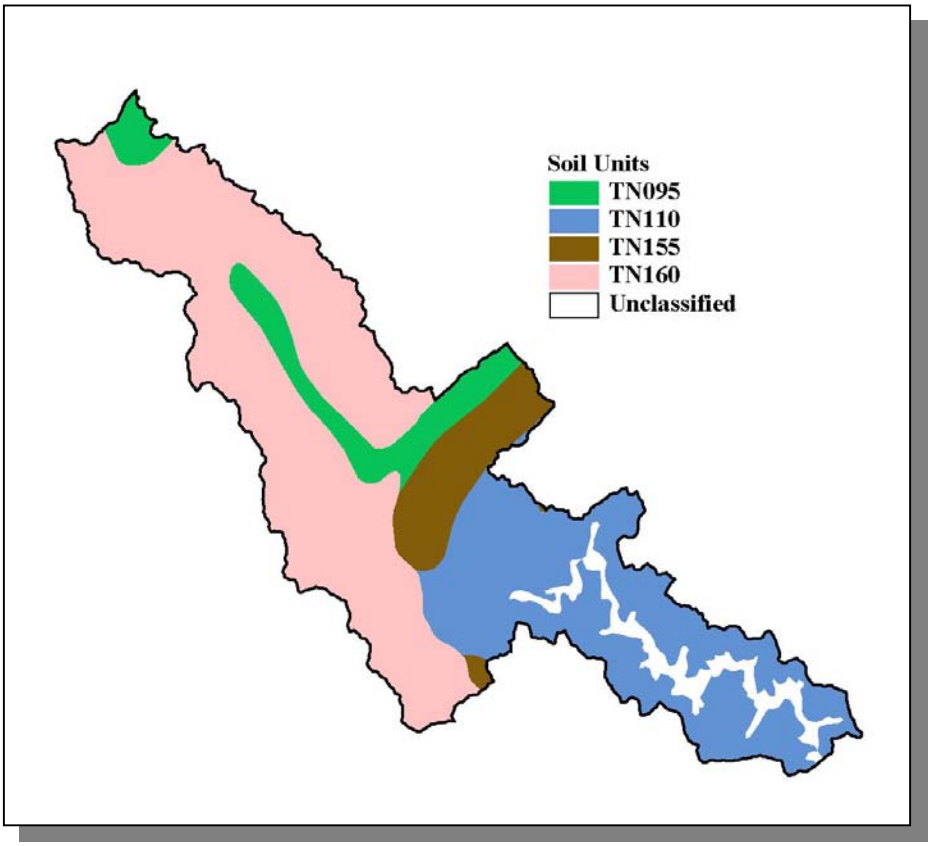


***Figure 4-48. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050106.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN095 | 0.00 | B | 2.35 | 5.12 | Loam | 0.31 |
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN160 | 0.00 | B | 2.69 | 5.36 | Loam | 0.25 |

***Table 4-41. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050106.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Anderson | 68,250 | 71,498 | 71,330 | 0.13 | 89 | 93 | 93 | 4.5 |
| Campbell | 35,079 | 37,878 | 39,854 | 11.63 | 4,079 | 4,405 | 4,634 | 13.6 |
| **Total** | **103,329** | **109,376** | **111,184** | | **4,168** | **4,498** | **4,727** | **13.4** |

***Table 4-42. Population Estimates in Subwatershed 060102050106.***

| | | | NUMBER OF HOUSING UNITS | | | |
|---|---|---|---|---|---|---|
| Populated Place | County | Population | Total | Public Sewer | Septic Tank | Other |
| | | | | | | |
| Caryville | Campbell | 1,750 | 736 | 439 | 281 | 16 |
| Jacksboro | Campbell | 1,568 | 650 | 519 | 127 | 4 |
| LaFollette | Campbell | 7,192 | 3,116 | 2,745 | 366 | 5 |
| **Total** | | **10.510** | **4,502** | **3,703** | **774** | **25** |

***Table 4-43. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 060102050106.***

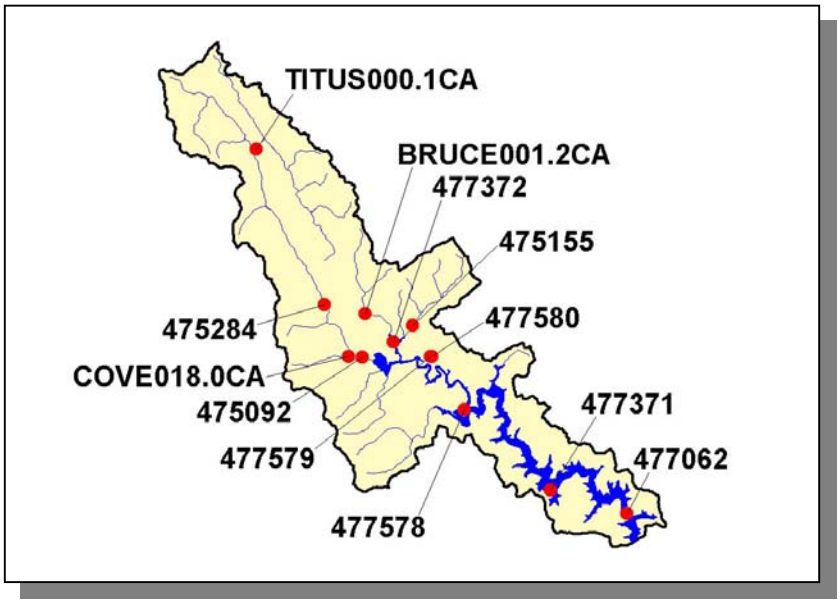


***Figure 4-49. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050106.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.A.vi.a. Point Source Contributions.

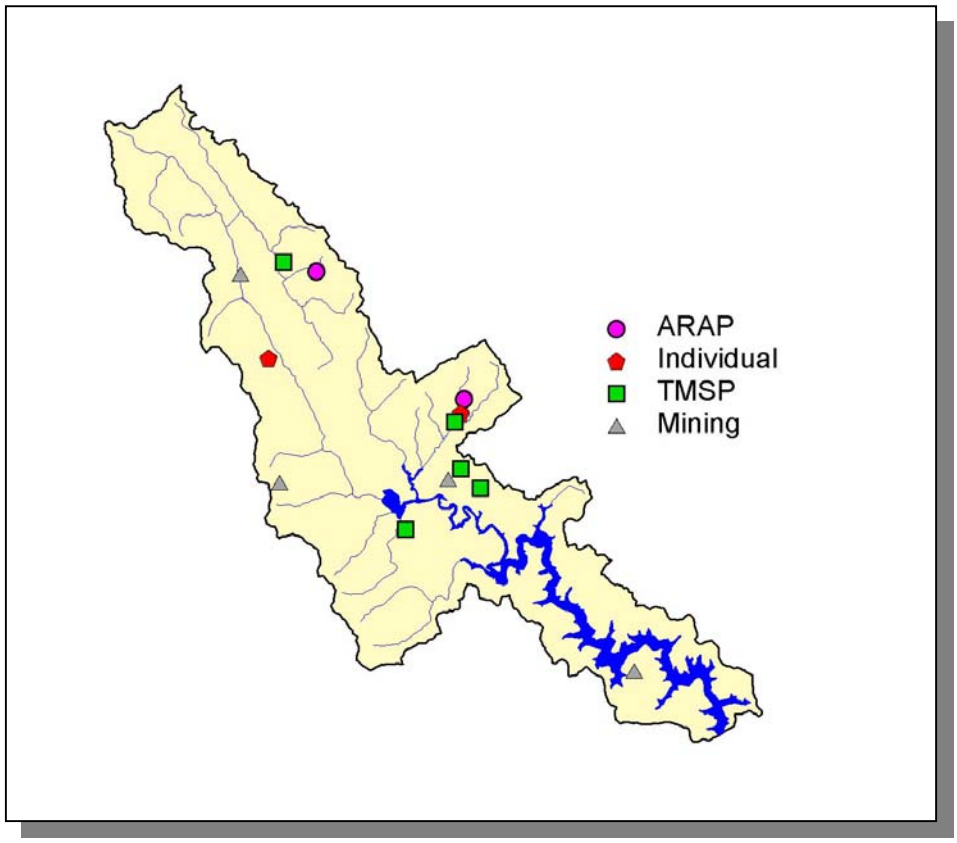


***Figure 4-50. Location of Permits Issued in Subwatershed 060102050106.*** *More information, including the names of facilities, is provided in Appendix IV.*

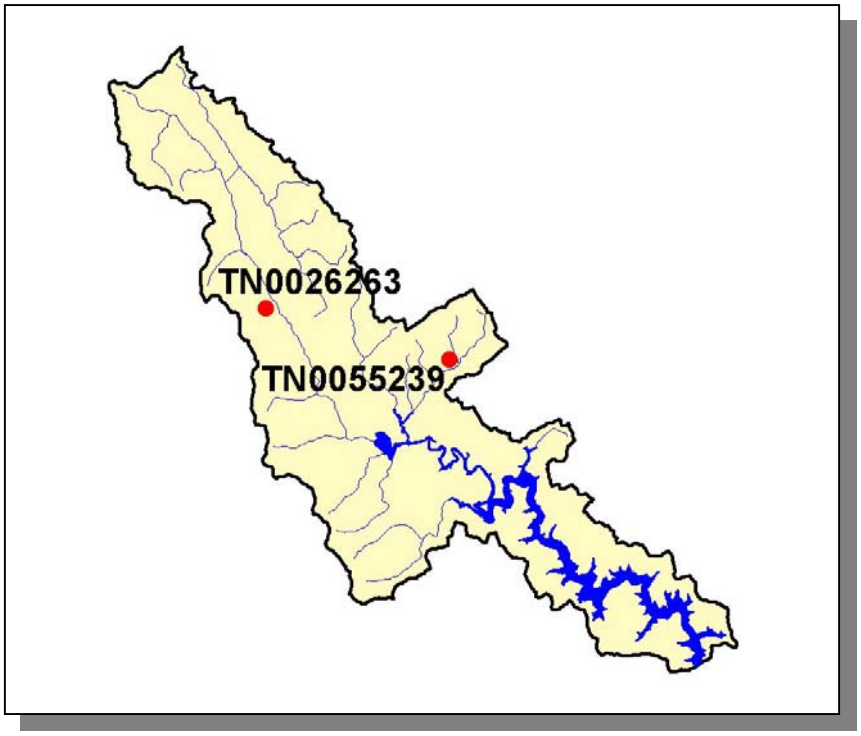


***Figure 4-51. Location of Active NPDES Sites in Subwatershed 060102050106.*** *More information, including the names of facilities, is provided in Appendix IV.*

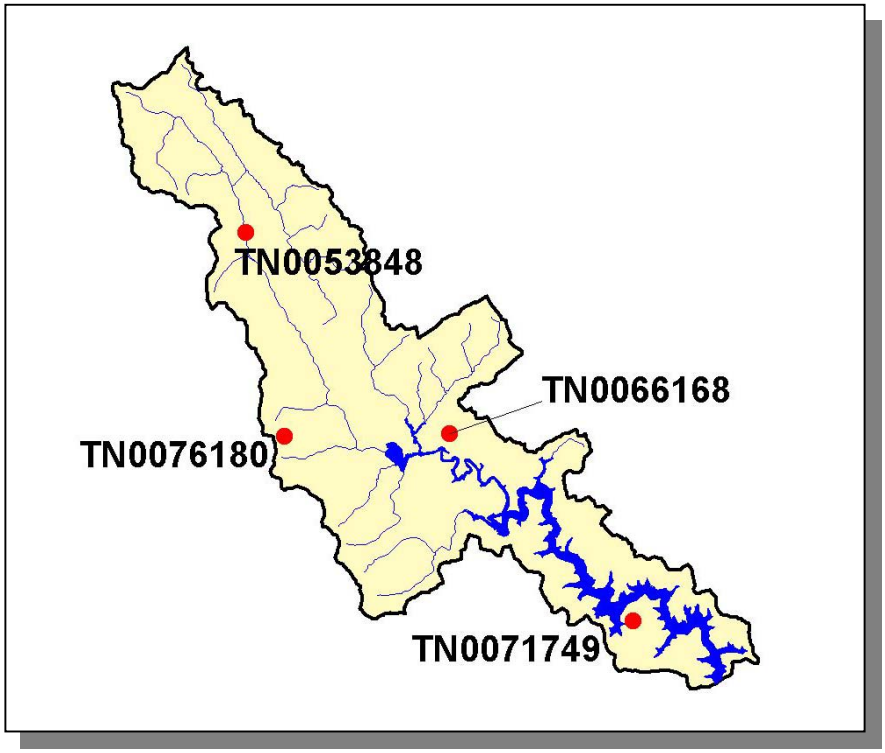


***Figure 4-52. Location of Active Mining Sites in Subwatershed 060102050106.*** *More nformation, including the names of mining operations, is provided in Appendix IV.*

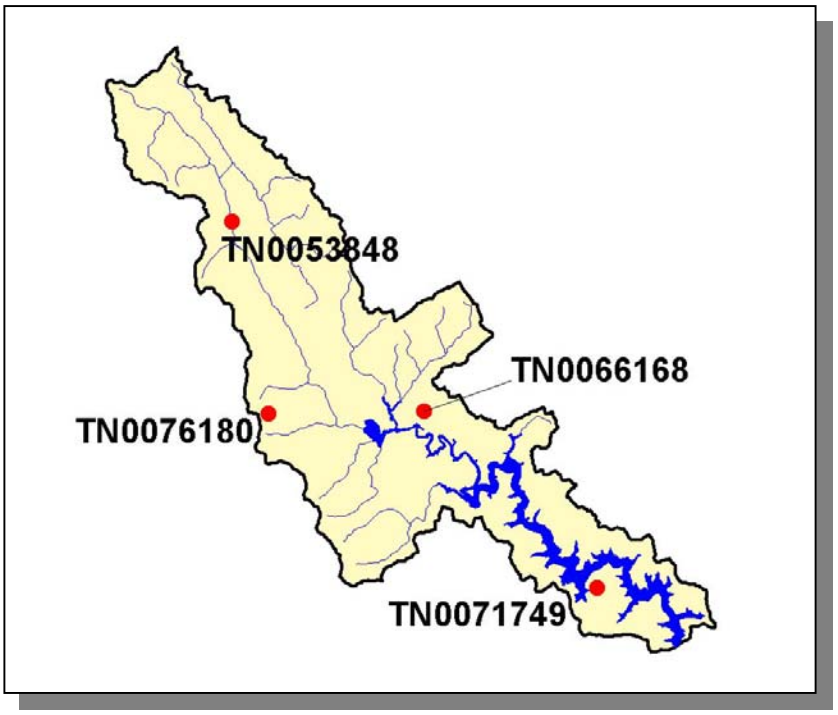


***Figure 4-53. Location of Permitted Herbicide Application Sites in Subwatershed 060102050106.*** *More information is provided in Appendix IV.*

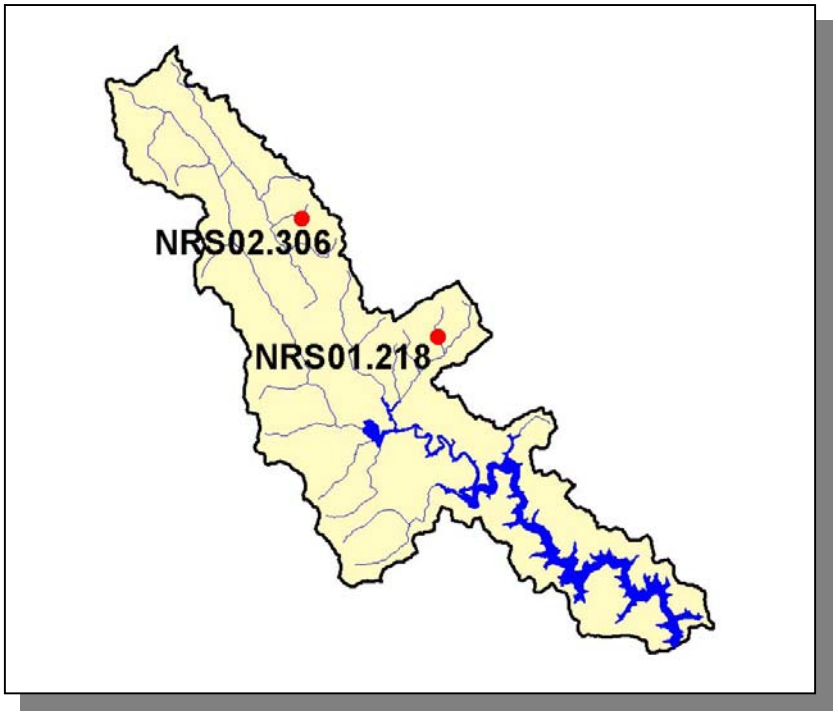


***Figure 4-54. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 060102050106.*** *More information is provided in Appendix IV.*

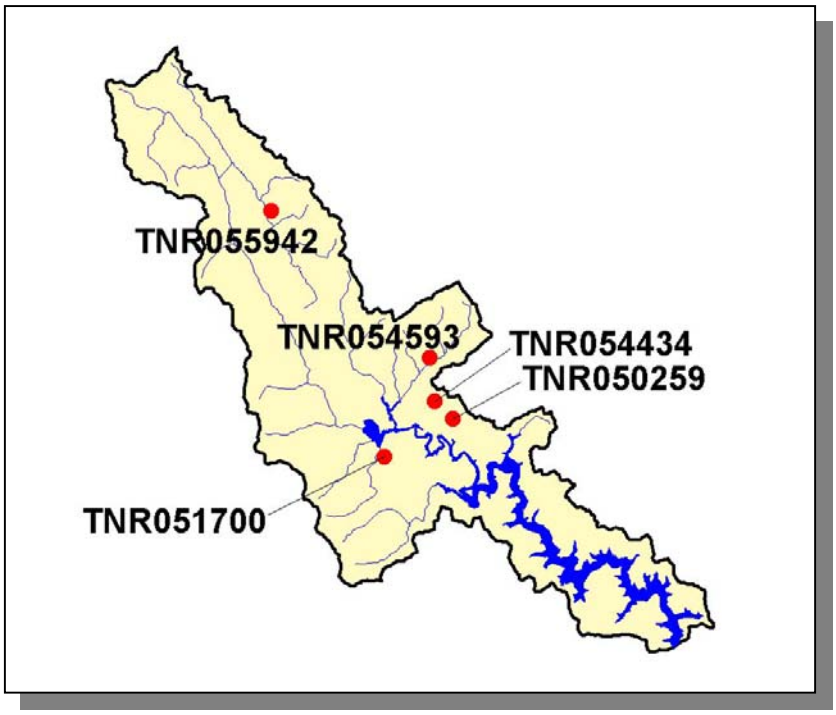


***Figure 4-55. Location of TMSP Sites in Subwatershed 060102050106.*** *More information, including the names of facilities, is provided in Appendix IV.*

4.2.A.vi.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | |
|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs |
| | | | | |
| 304 | 573 | 5 | <5 | <5 |

***Table 4-44. Summary of Livestock Count Estimates in Subwatershed 060102050106.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Anderson | 4,449 | 9,458 | 335 | 769 | 0 | 135 |
| Campbell | 4,083 | 7,684 | 66 | 8 | 14 | 0 |

***Table 4-45. Summary of Livestock Count Estimates in Anderson and Campbell Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Anderson | 124.0 | 124.0 | 2.6 | 6.2 |
| Campbell | 250.3 | 250.2 | 2.6 | 10.6 |

***Table 4-46. Forest Acreage and Annual Removal Rates (1987-1994) in Anderson and Campbell Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 1.73 |
| Grass (Hayland) | 1.77 |
| Legumes, Grass (Hayland) | 0.46 |
| Legumes (Hayland) | 1.07 |
| Grass, Forbs, Legumes (Mixed Pasture) | 2.73 |
| Tobacco (Row Crops) | 15.01 |
| Other Vegetable and Truck Crops | 3.40 |
| Other Land in Farms | 0.23 |
| Farmsteads and Ranch Headquarters | 0.08 |

***Table 4-47. Annual Estimated Total Soil Loss in Subwatershed 060102050106.***

4.2.B. 0601020505.

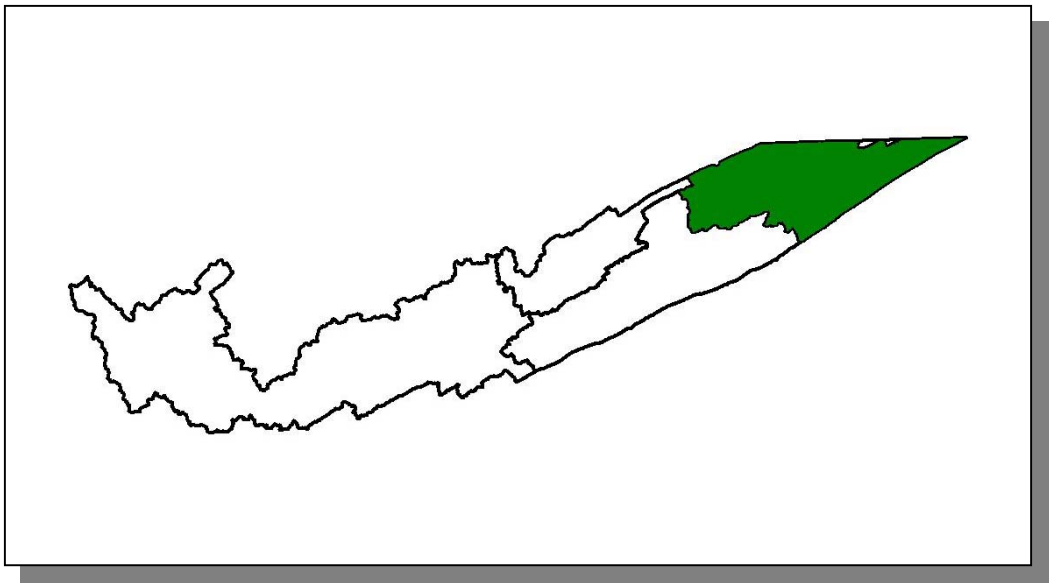

***Figure 4-56. Location of Subwatershed 0601020505.*** *All Upper Clinch River HUC-10 subwatershed boundaries are shown for reference.*

4.2.B.i. 060102050502 (Clinch River).

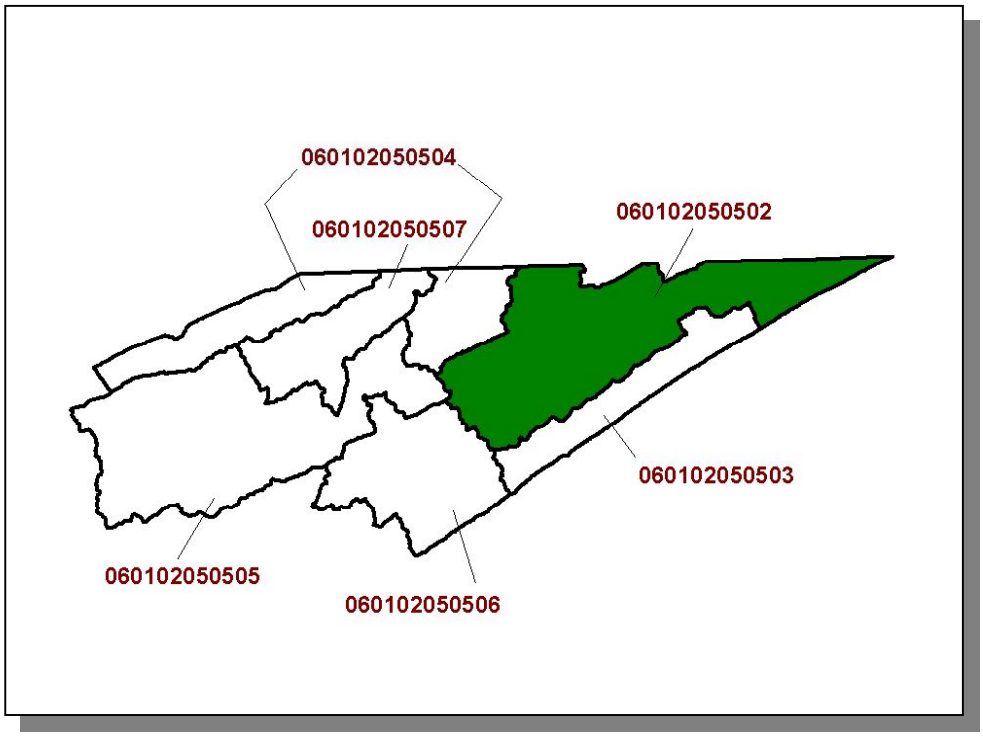


***Figure 4-57. Location of Subwatershed 060102050502.*** *All HUC-12 subwatershed boundaries are shown for reference.*

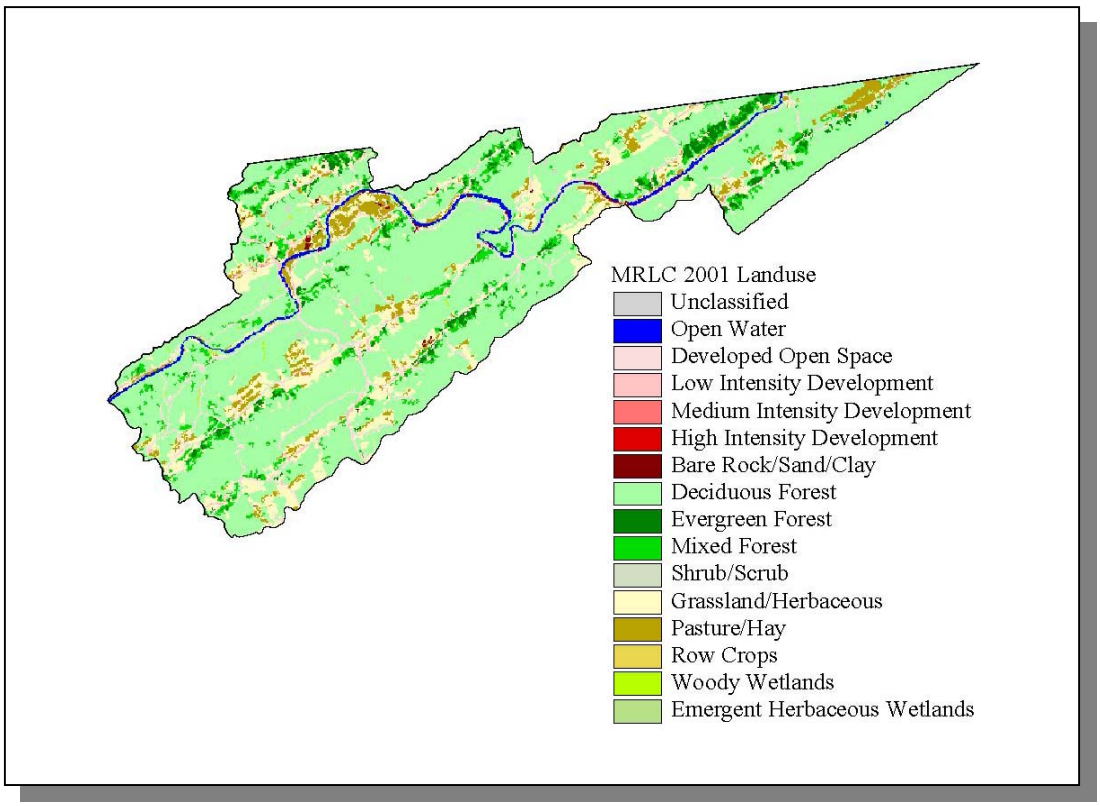


***Figure 4-58. Illustration of Land Use Distribution in Subwatershed 060102050502.***

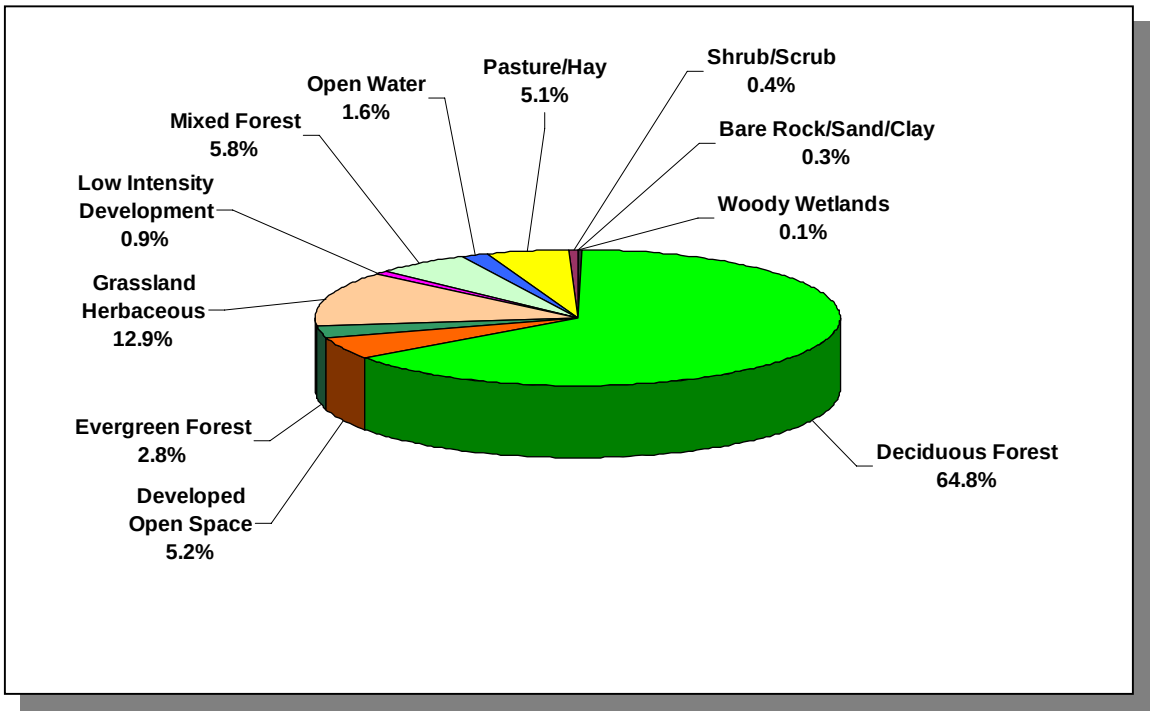


***Figure 4-59. Land Use Distribution in Subwatershed 060102050502.*** *More information is provided in Appendix IV.*

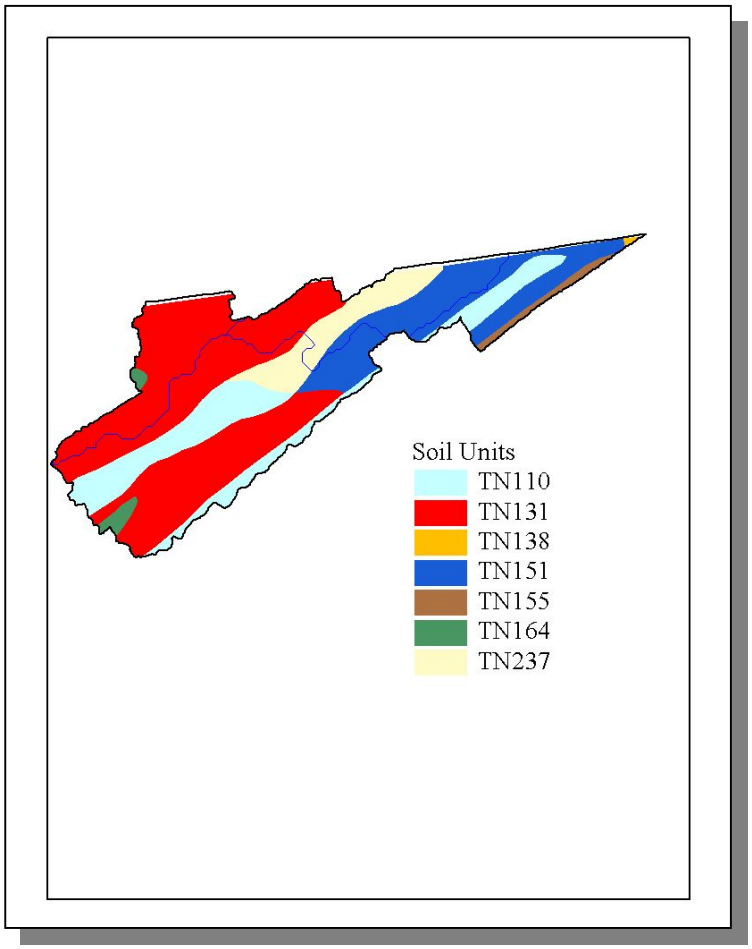


***Figure 4-60. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050502.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN151 | 0.00 | C | 2.88 | 4.75 | Loam | 0.40 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN164 | 0.00 | C | 4.84 | 5.15 | Loam | 0.25 |
| TN237 | 0.00 | B | 3.36 | 5.40 | Silty Loam | 0.32 |

***Table 4-48. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050502.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

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| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Hancock | 6,739 | 6,801 | 6,786 | 10.8 | 728 | 734 | 733 | 0.7 |
| Hawkins | 44,565 | 48,821 | 53,563 | 2.27 | 1,010 | 1,107 | 1,214 | 20.2 |
| **Total** | **51,304** | **55,622** | **60,349** | | **1,738** | **1,841** | **1,947** | **12.0** |

***Table 4-49. Population Estimates in Subwatershed 060102050502.***

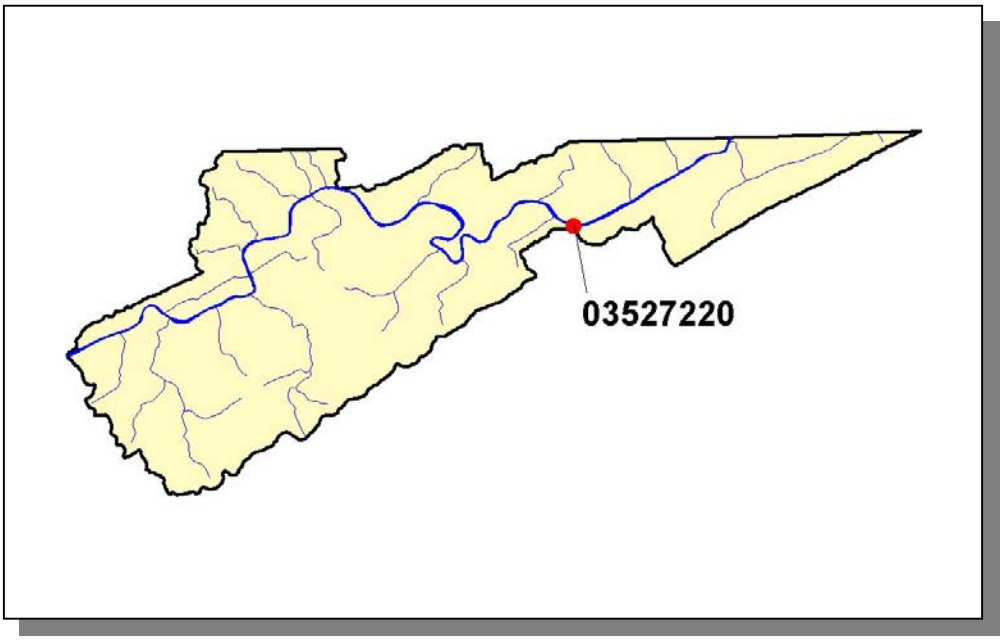


***Figure 4-61. Location of Historical Streamflow Data Collection Sites in Subwatershed 060102050502.*** *More information is provided in Appendix IV.*

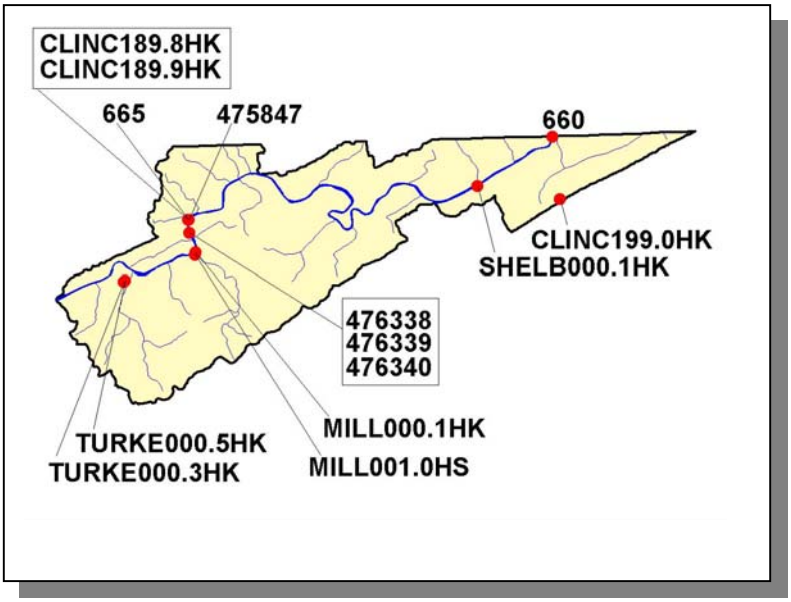


***Figure 4-62. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050502.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

## 4.2.B.i.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

## 4.2.B.i.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 557 | 1,113 | 13 | <5 | <5 | 6 |

***Table 4-50. Summary of Livestock Count Estimates in Subwatershed 060102050502.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |
| Hawkins | 18,796 | 36,429 | 903 | 1,079 | 442 | 243 |

***Table 4-51. Summary of Livestock Count Estimates in Hancock and Hawkins Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |
| Hawkins | 177.4 | 177.4 | 0.4 | 2.1 |

***Table 4-52. Forest Acreage and Annual Removal Rates (1987-1994) in Hancock and Hawkins Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 1.81 |
| Grass (Hayland) | 0.62 |
| Legumes, Grass (Hayland) | 0.40 |
| Legumes (Hayland) | 0.16 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.71 |
| Corn (Row Crops) | 2.42 |
| Tobacco (Row Crops) | 20.90 |
| Other Vegetable and Truck Crops | 33.50 |
| Farmsteads and Ranch Headquarters | 0.15 |

***Table 4-53. Annual Estimated Total Soil Loss in Subwatershed 060102050502.***

4.2.B.ii. 060102050503 (War Creek).

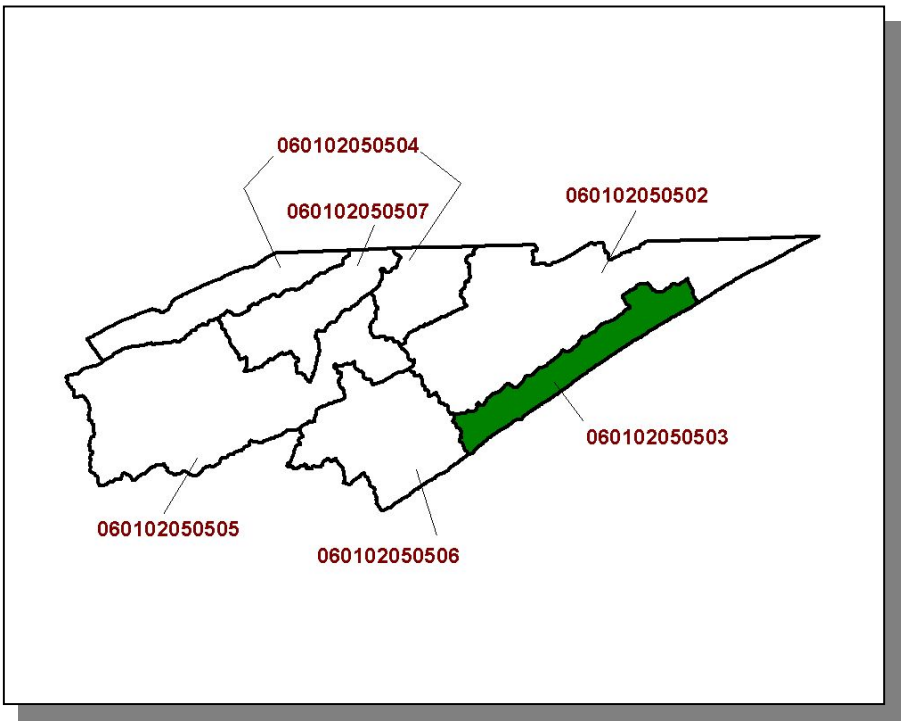


***Figure 4-63. Location of Subwatershed 060102050503.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

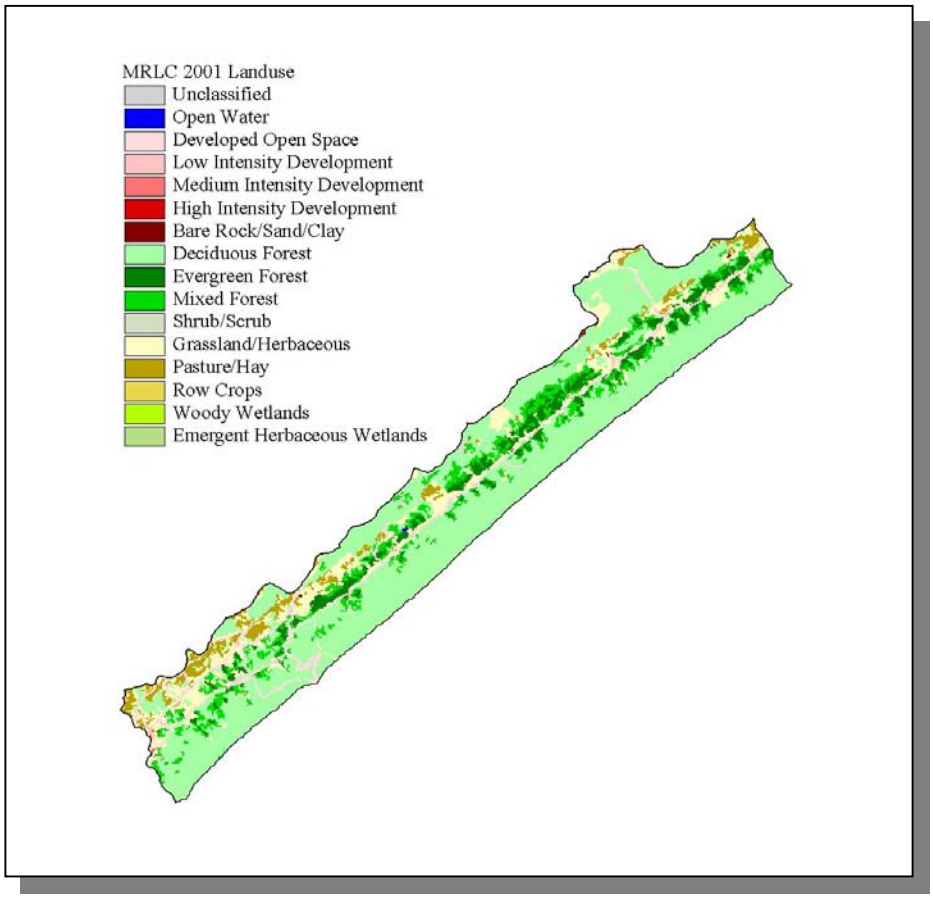


***Figure 4-64. Illustration of Land Use Distribution in Subwatershed 060102050503.***

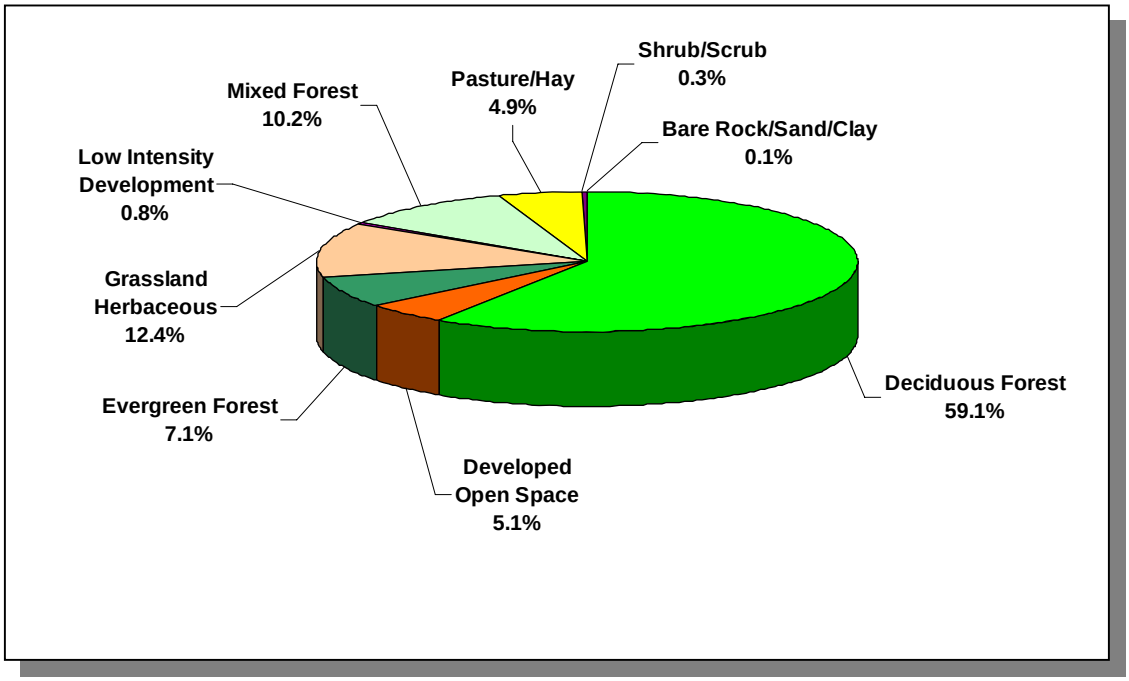


***Figure 4-65. Land Use Distribution in Subwatershed 060102050503.*** *More information is provided in Appendix IV.*

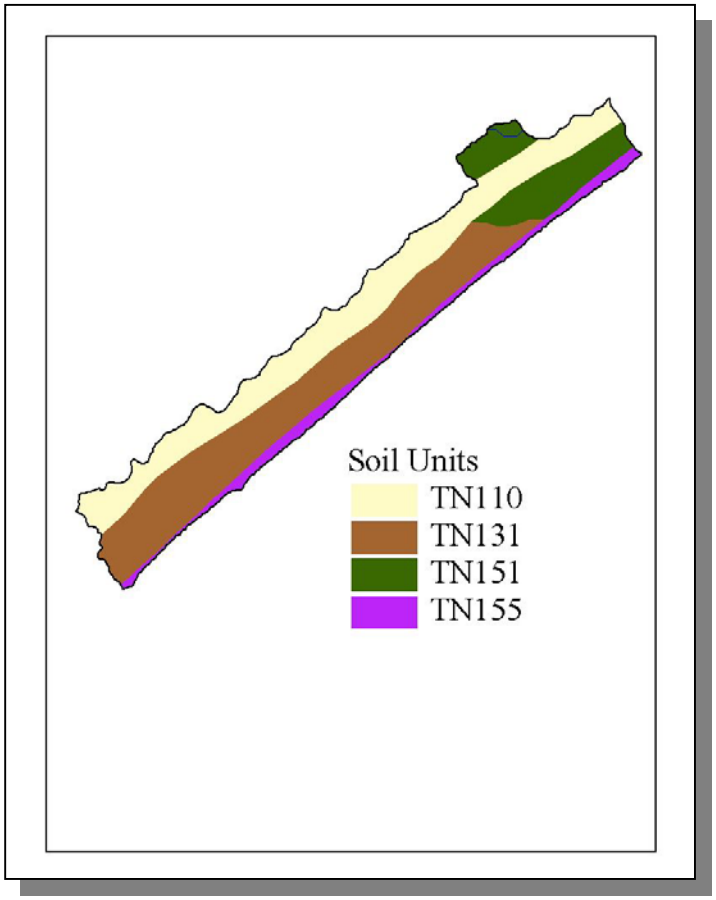


***Figure 4-66. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050503.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN151 | 0.00 | C | 2.88 | 4.75 | Loam | 0.40 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |

***Table 4-54. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050503.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Hancock | 6,739 | 6,801 | 6,786 | 1.55 | 105 | 106 | 105 | 0.0 |
| Hawkins | 44,565 | 48,821 | 53,563 | 1.55 | 691 | 757 | 830 | 20.1 |
| **Total** | **51,304** | **55,622** | **60,349** | | **796** | **863** | **935** | **17.5** |

***Table 4-55. Population Estimates in Subwatershed 060102050503.***

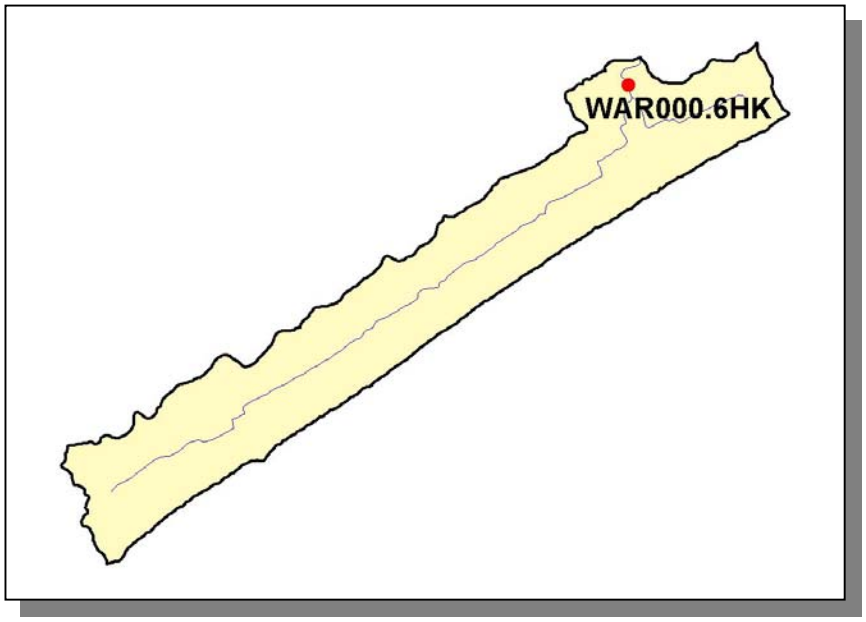


***Figure 4-67. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050503.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.B.ii.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.B.ii.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 167 | 326 | 7 | <5 | <5 | <5 |

***Table 4-56. Summary of Livestock Count Estimates in Subwatershed 060102050503.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |
| Hawkins | 18,796 | 36,429 | 903 | 1,079 | 442 | 243 |

***Table 4-57. Summary of Livestock Count Estimates in Hancock and Hawkins Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |
| Hawkins | 177.4 | 177.4 | 0.4 | 2.1 |

***Table 4-58. Forest Acreage and Annual Removal Rates (1987-1994) in Hancock and Hawkins Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.96 |
| Grass (Hayland) | 0.59 |
| Legumes, Grass (Hayland) | 0.40 |
| Legumes (Hayland) | 0.16 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.62 |
| Corn (Row Crops) | 2.42 |
| Tobacco (Row Crops) | 18.44 |
| Other Vegetable and Truck Crops | 33.50 |
| Farmsteads and Ranch Headquarters | 0.29 |

***Table 4-59. Annual Estimated Total Soil Loss in Subwatershed 060102050503.***

4.2.B.iii. 060102050504 (Blackwater Creek).

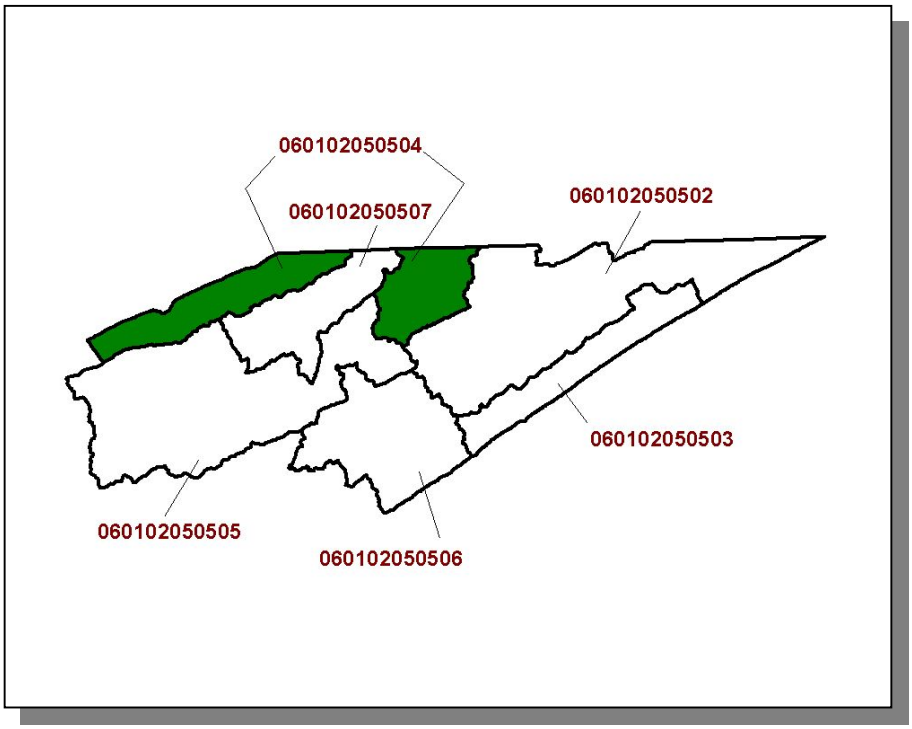


***Figure 4-68. Location of Subwatershed 060102050504.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

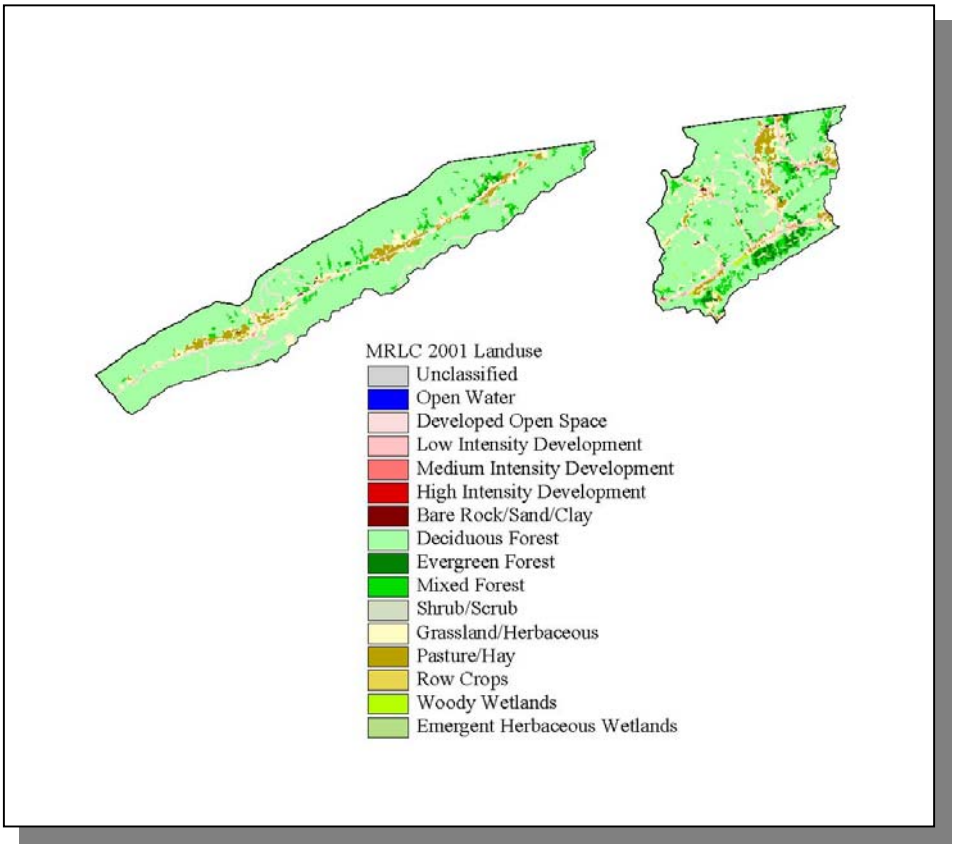


***Figure 4-69. Illustration of Land Use Distribution in Subwatershed 060102050504.***

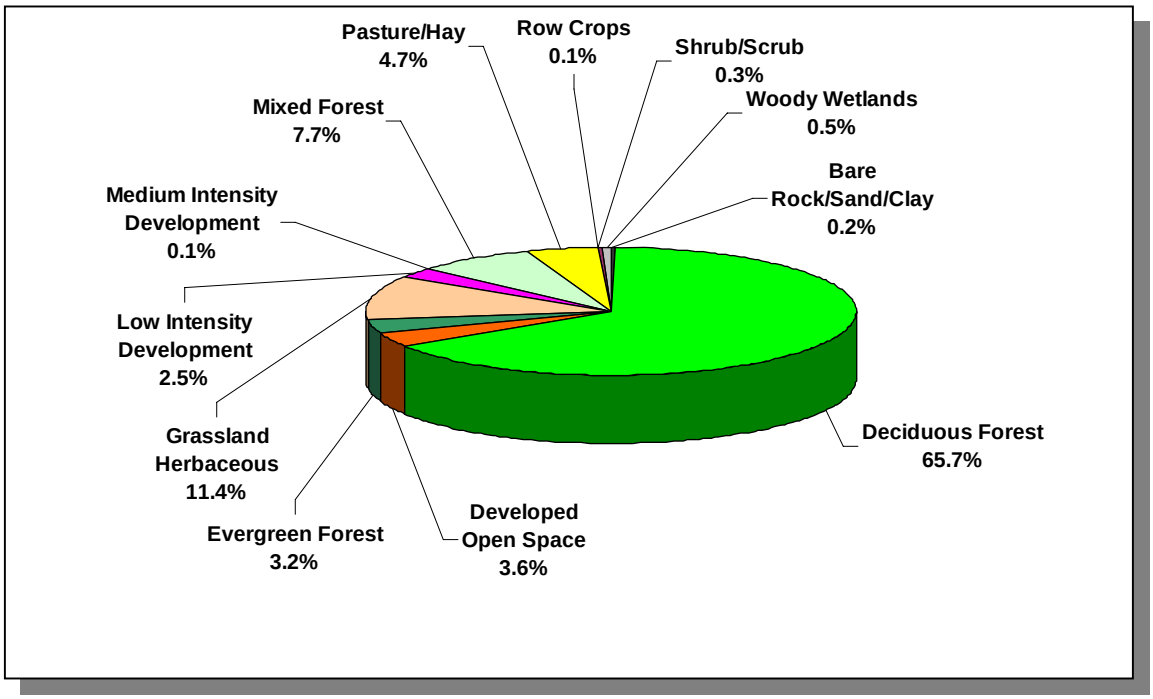


***Figure 4-70. Land Use Distribution in Subwatershed 060102050504.*** *More information is provided in Appendix IV.*

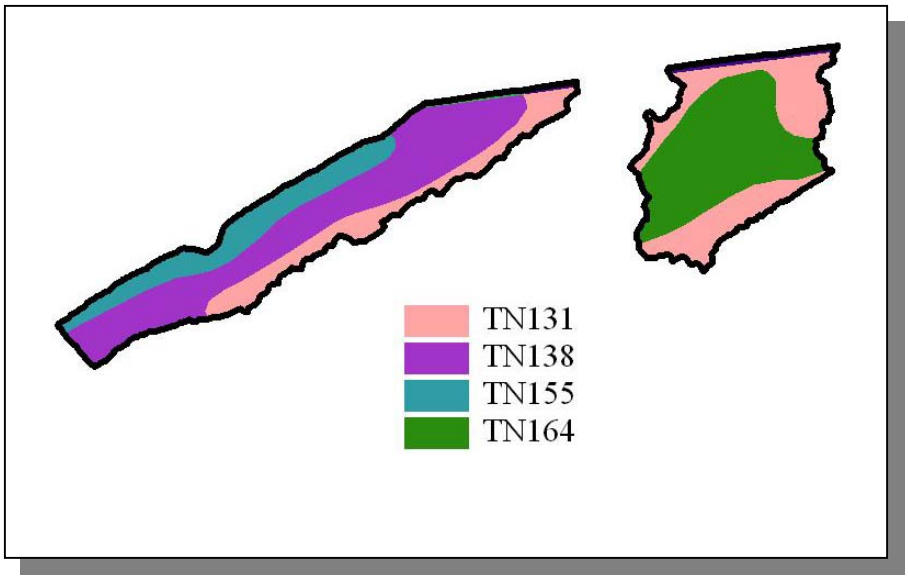


***Figure 4-71. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050504.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN164 | 0.00 | C | 4.48 | 5.15 | Loam | 0.25 |

***Table 4-60. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050504.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Hancock | 6,739 | 6,801 | 6,786 | 4.5 | 303 | 306 | 305 | 0.7 |

***Table 4-61. Population Estimates in Subwatershed 060102050504.***

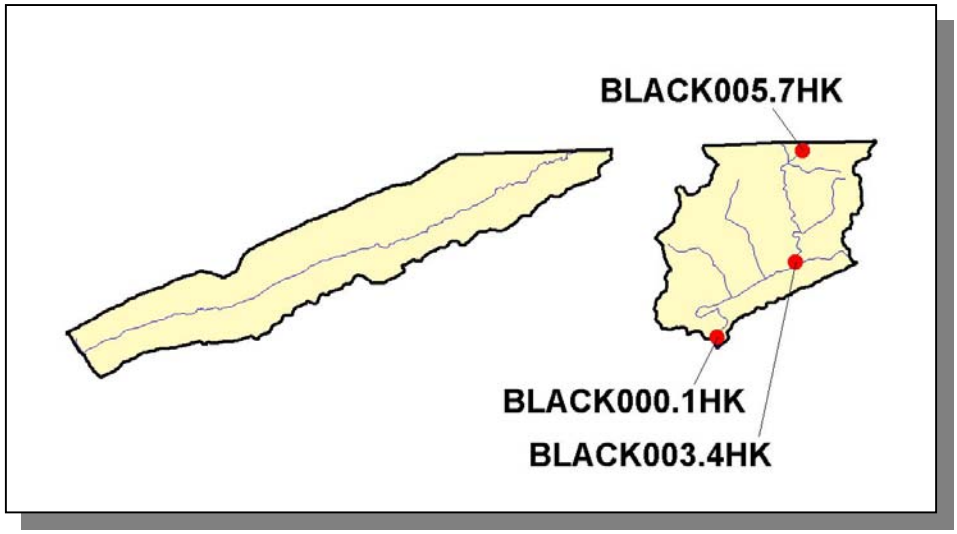


***Figure 4-72. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050504.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

## 4.2.B.iii.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

## 4.2.B.iii.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | |
|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Sheep |
| | | | |
| 78 | 158 | <5 | <5 |

***Table 4-62. Summary of Livestock Count Estimates in Subwatershed 060102050504.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Sheep |
| | | | | | |
| Hancock | 7,079 | 14,311 | 89 | 364 | 67 |

***Table 4-63. Summary of Livestock Count Estimates in Hancock County.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |

***Table 4-64. Forest Acreage and Annual Removal Rates (1987-1994) in Hancock County.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 2.54 |
| Grass (Hayland) | 0.65 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.79 |
| Corn (Row Crops) | 2.42 |
| Tobacco (Row Crops) | 23.03 |
| Farmsteads and Ranch Headquarters | 0.03 |

***Table 4-65. Annual Estimated Total Soil Loss in Subwatershed 060102050504.***

4.2.B.iv. 060102050505 (Clinch River).

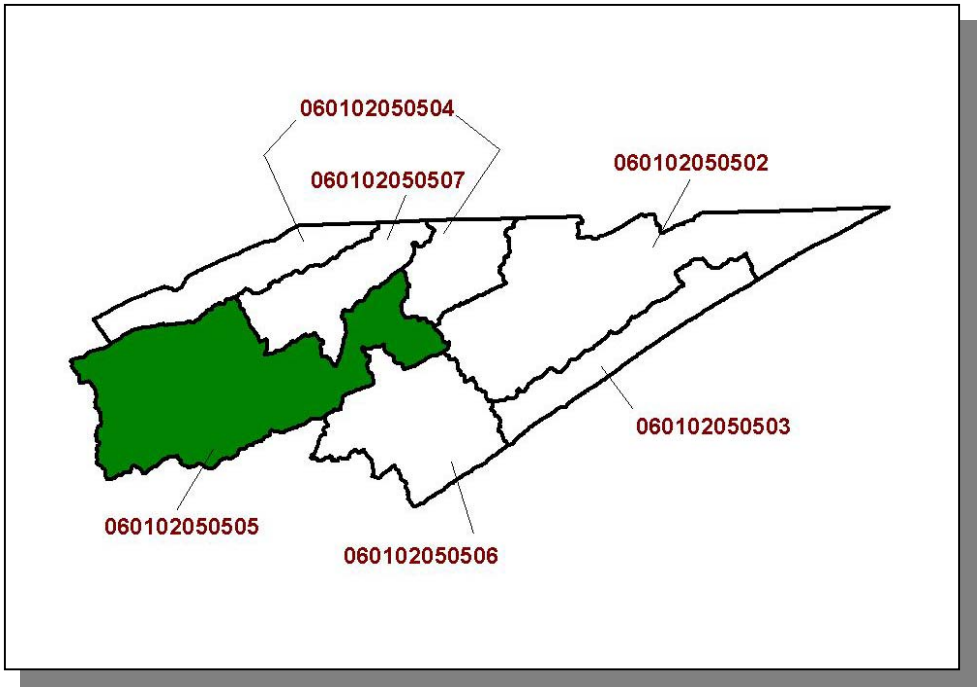


***Figure 4-73. Location of Subwatershed 060102050505.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

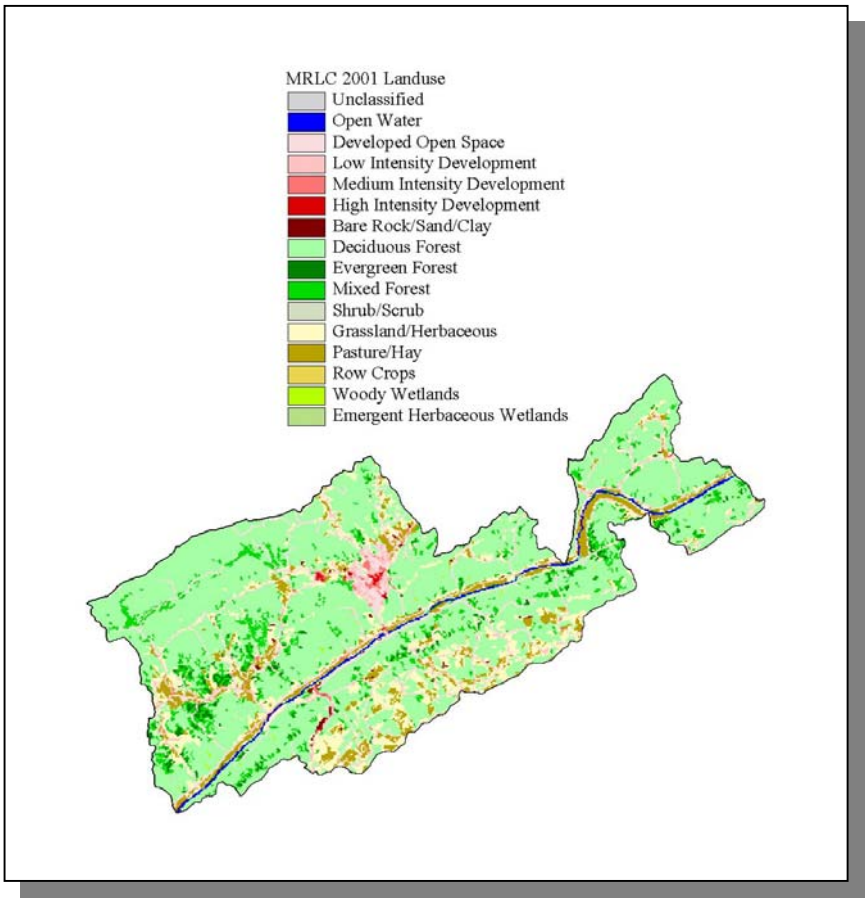


***Figure 4-74. Illustration of Land Use Distribution in Subwatershed 060102050505.***

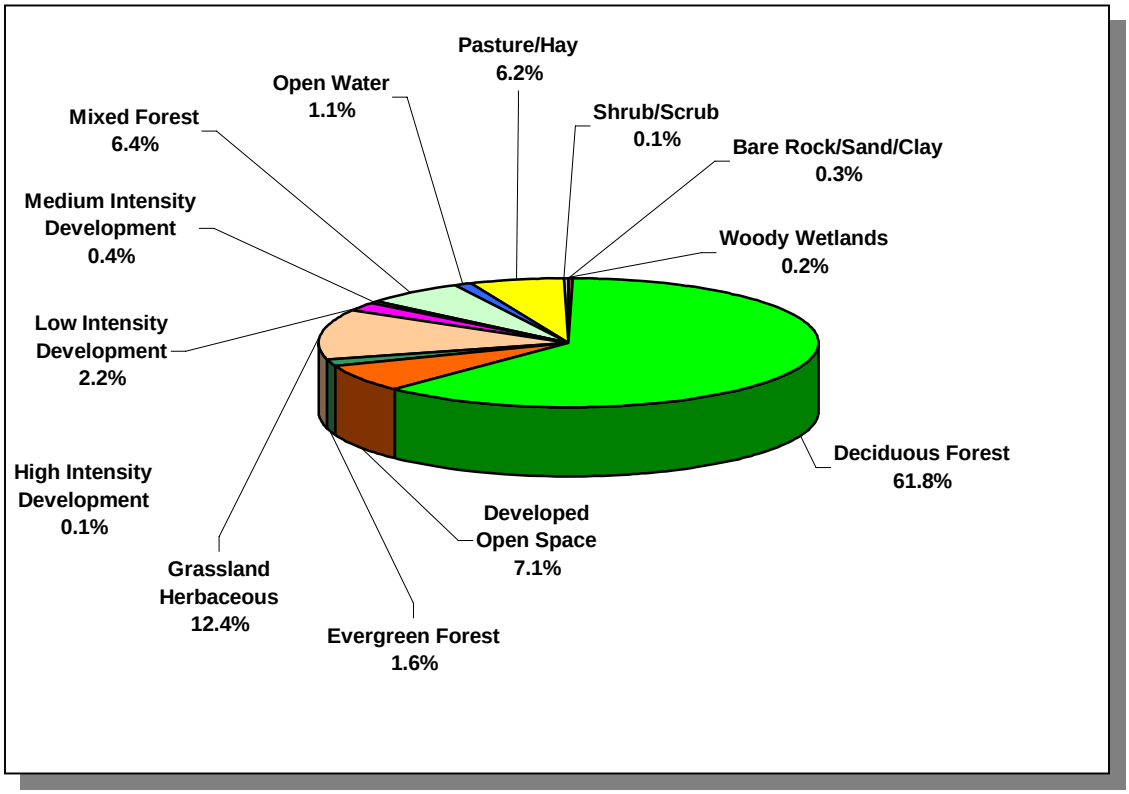


***Figure 4-75. Land Use Distribution in Subwatershed 060102050505.*** *More information is provided in Appendix IV.*

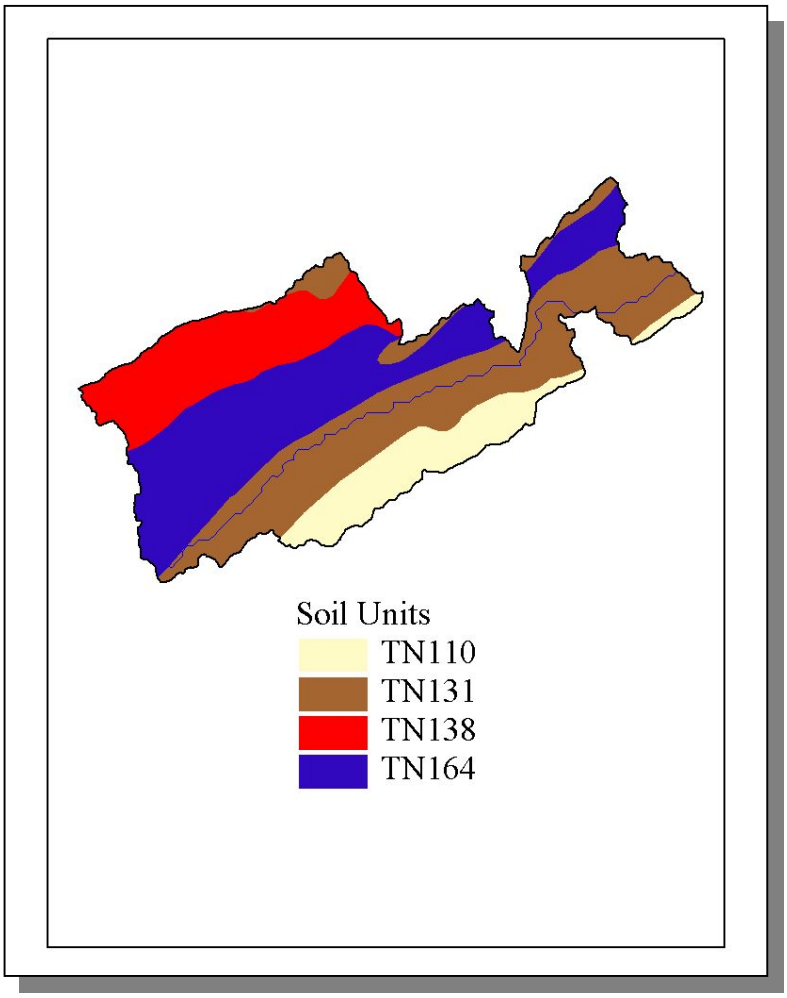


***Figure 4-76. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050505.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN164 | 0.00 | C | 4.48 | 5.15 | Loam | 0.25 |

***Table 4-66. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050505.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Hancock | 6,739 | 6,801 | 6,786 | 17.44 | 1,176 | 1,186 | 1,184 | 0.7 |

***Table 4-67. Population Estimates in Subwatershed 060102050505.***

| | | | NUMBER OF HOUSING UNITS | | | |
|---|---|---|---|---|---|---|
| Populated Place | County | Population | Total | Public Sewer | Septic Tank | Other |
| | | | | | | |
| Sneedville | Hancock | 1,446 | 551 | 451 | 90 | 10 |

***Table 4-68. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 060102050505.***

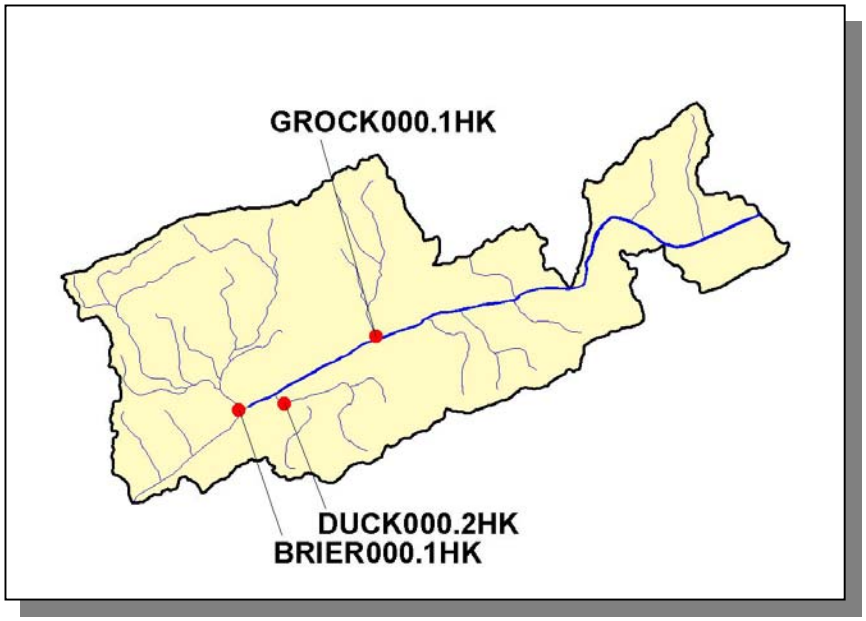


***Figure 4-77. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050505.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.B.iv.a. Point Source Contributions.

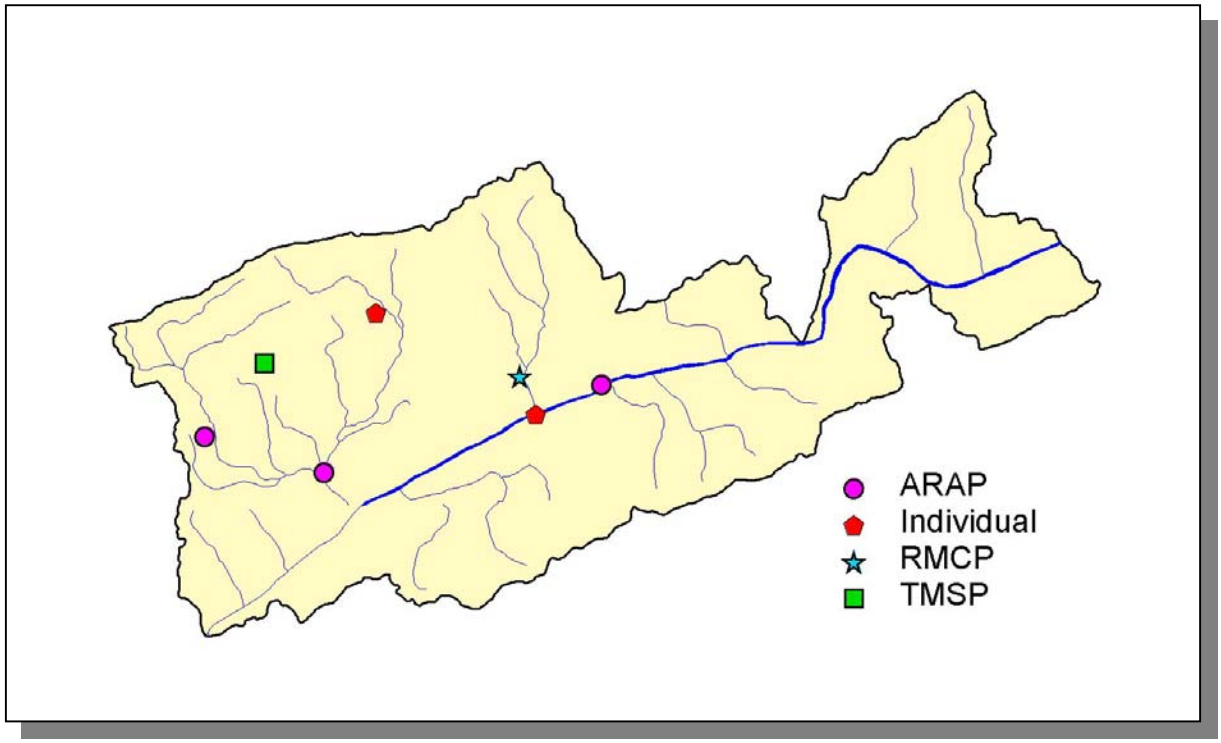


***Figure 4-78. Location of Permits Issued in Subwatershed 060102050505.*** *More information, including the names of facilities, is provided in Appendix IV.*

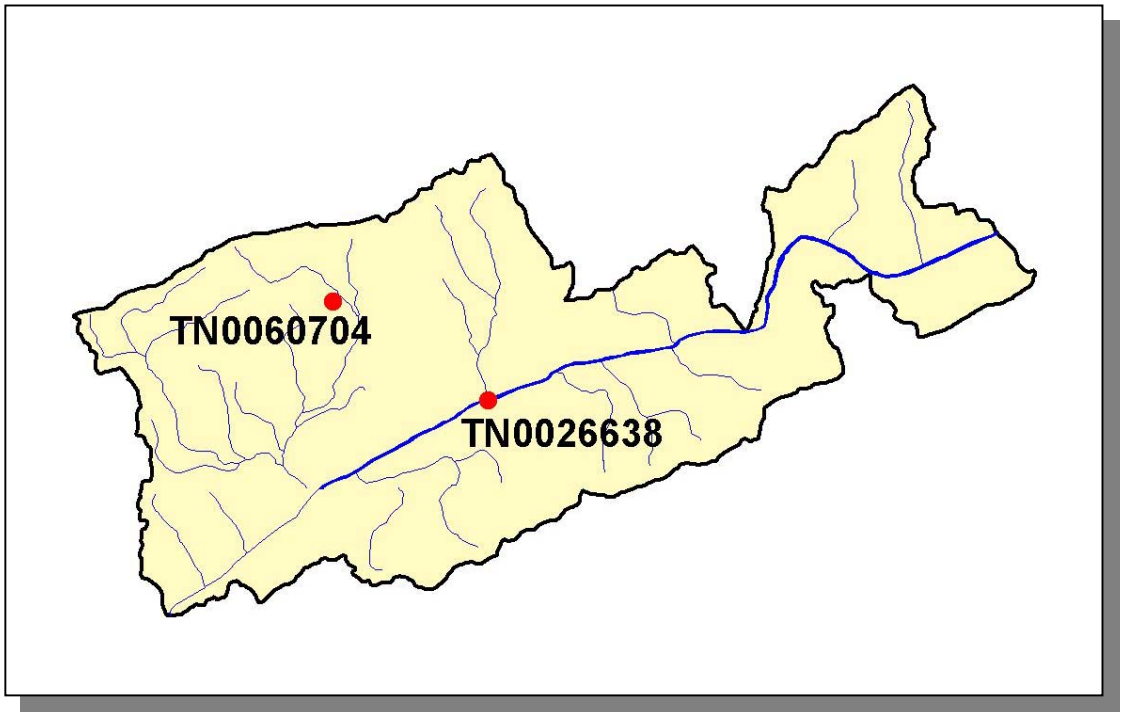


***Figure 4-79. Location of Active NPDES Sites in Subwatershed 060102050505.*** *More information, including the names of facilities, is provided in Appendix IV.*

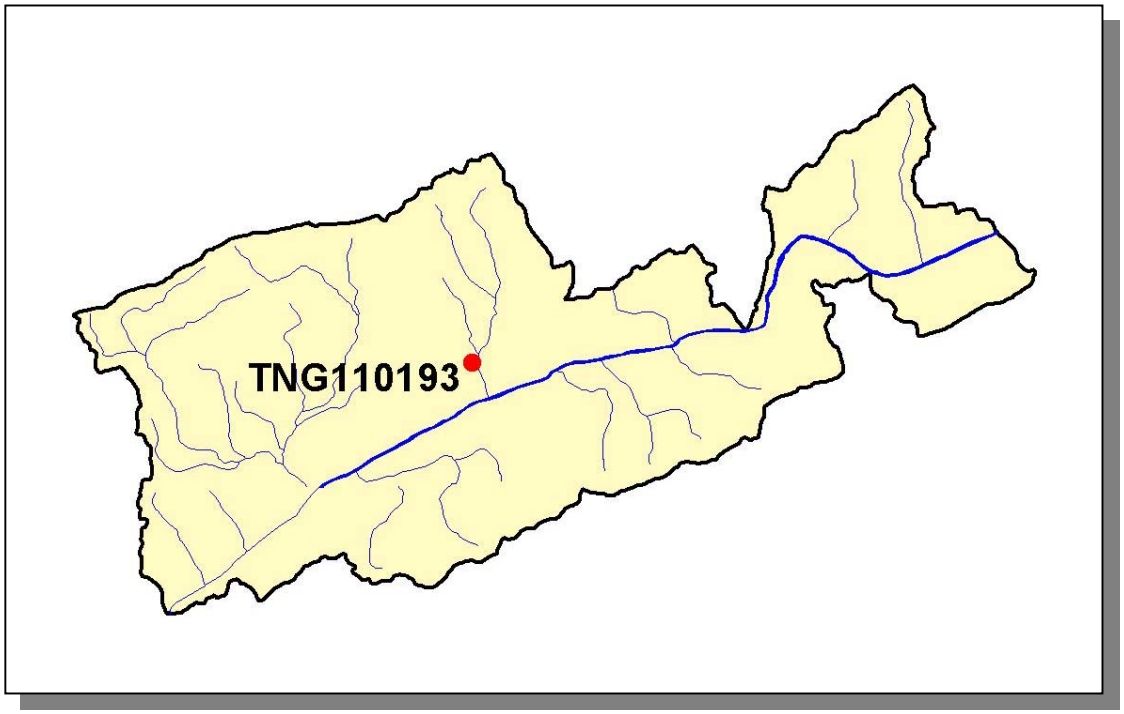


***Figure 4-80. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 060102050505.*** *More information is provided in Appendix IV.*

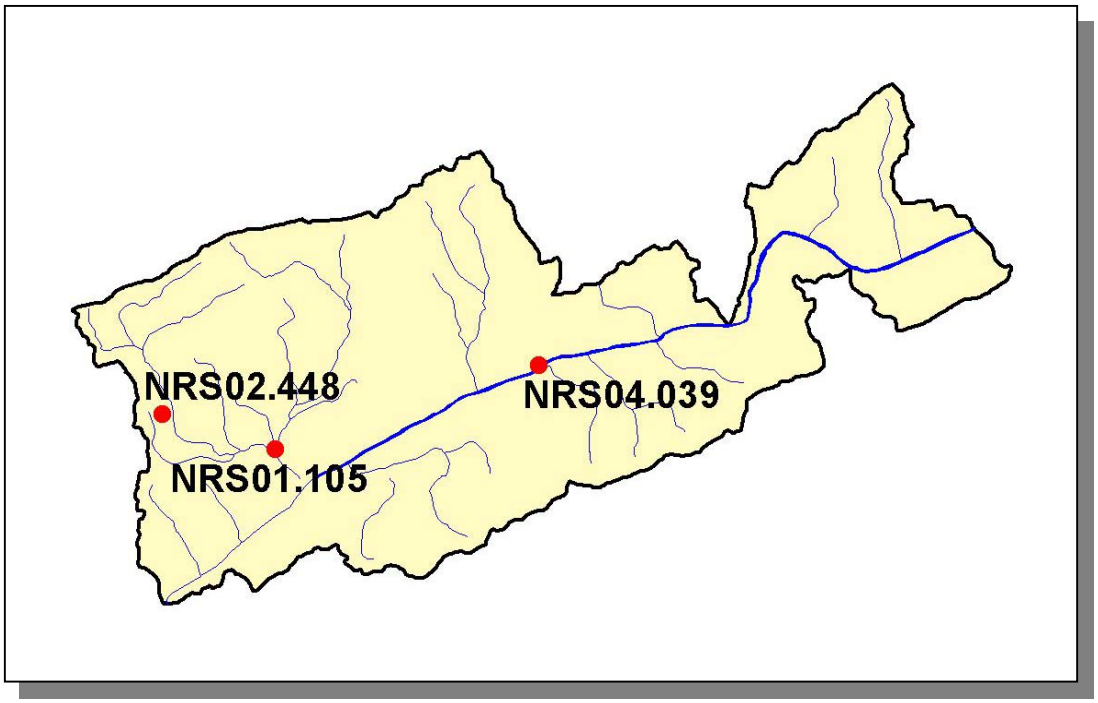


***Figure 4-81. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 060102050505.*** *More information is provided in Appendix IV.*

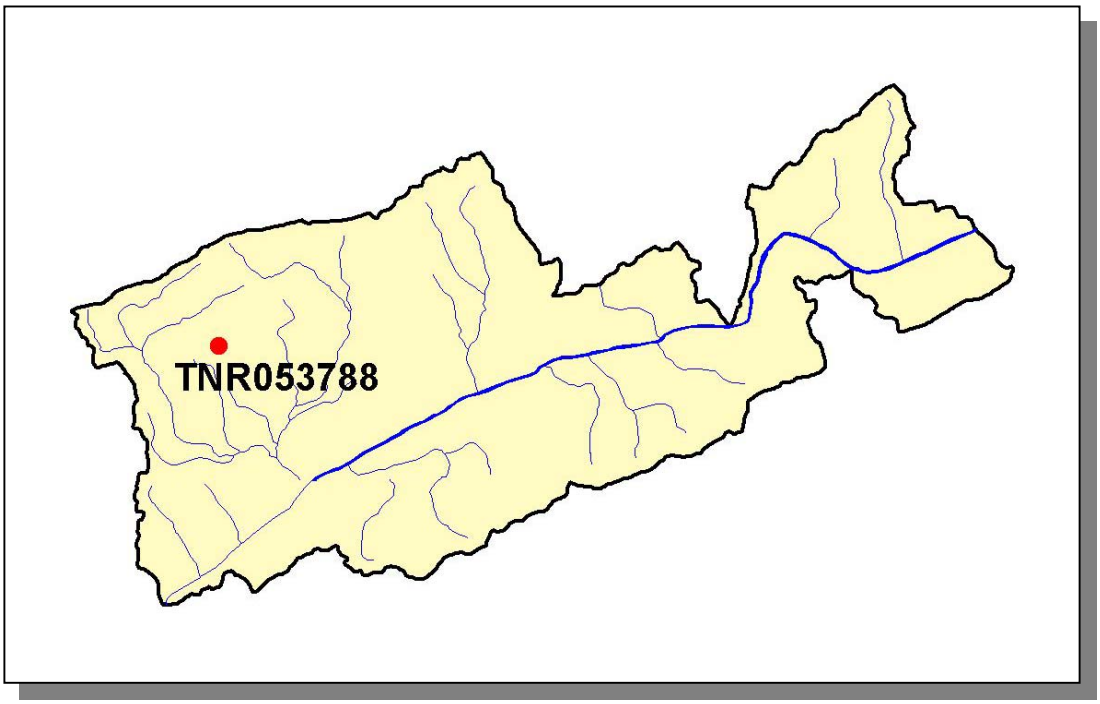


***Figure 4-82. Location of TMSP Sites in Subwatershed 060102050505.*** *More information, including the names of facilities, is provided in Appendix IV.*

4.2.B.iv.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 060102050505:

- TN0026638 (Sneedville STP) discharges to the Clinch River @ RM 177.4

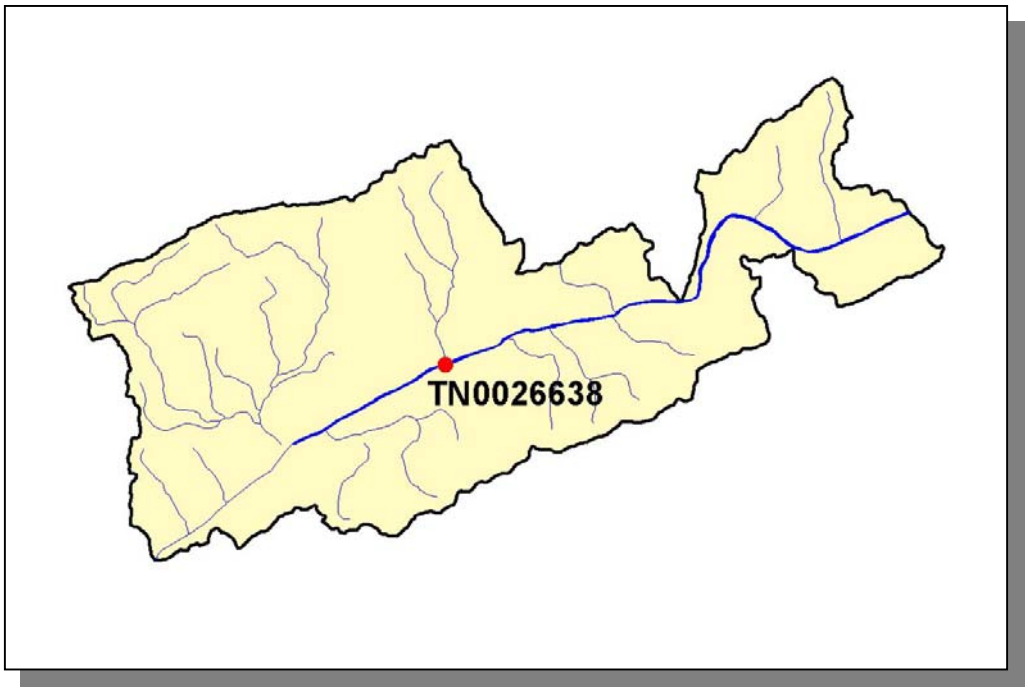


***Figure 4-83. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 060102050505.*** *More information, including the names of facilities, is provided in Appendix IV.*

| PERMIT # | 1Q10 | 3Q10 | 7Q10 | 3Q20 | QDESIGN |
|---|---|---|---|---|---|
| TN0026638 | | | 64.6 | | |

***Table 4-69. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050505.*** *Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.*

| PERMIT # | FLOW | $N0_2+NO_3$ | N | Zn | Cu | Pb | Ni | Cd | Hg | Mo | As | Se |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TN0026638 | X | X | X | X | X | X | X | X | X | X | X | X |

***Table 4-70. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050505.***

| PERMIT # | $CBOD_5$ | TRC | TSS | SETTLEABLE SOLIDS | DO | pH |
|---|---|---|---|---|---|---|
| TN0026638 | X | X | X | X | X | X |

***Table 4-71. Inorganic Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050505.*** *$CBOD_5$, Carbonaceous Biochemical Oxygen Demand (5-Day); TRC, Total Residual Chlorine; TSS, Total Suspended Solids.*

| PERMIT # | *E. coli* | FECAL COLIFORM |
|---|---|---|
| TN0026638 | X | X |

***Table 4-72. Bacteria Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050505.***

4.2.B.iv.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | |
|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Sheep |
| | | | | |
| 813 | 1,644 | 10 | <5 | 8 |

***Table 4-73. Summary of Livestock Count Estimates in Subwatershed 051302050505.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Sheep |
| | | | | | |
| Hancock | 7,079 | 14,311 | 89 | 364 | 67 |

***Table 4-74. Summary of Livestock Count Estimates in Hancock County.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |

***Table 4-75. Forest Acreage and Annual Removal Rates (1987-1994) in Hancock County.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 2.54 |
| Grass (Hayland) | 0.66 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.79 |
| Corn (Row Crops) | 2.42 |
| Tobacco (Row Crops) | 23.03 |
| Farmsteads and Ranch Headquarters | 0.03 |

***Table 4-76. Annual Estimated Total Soil Loss in Subwatershed 060102050505.***

4.2.B.v. 060102050506 (Richardson Creek).

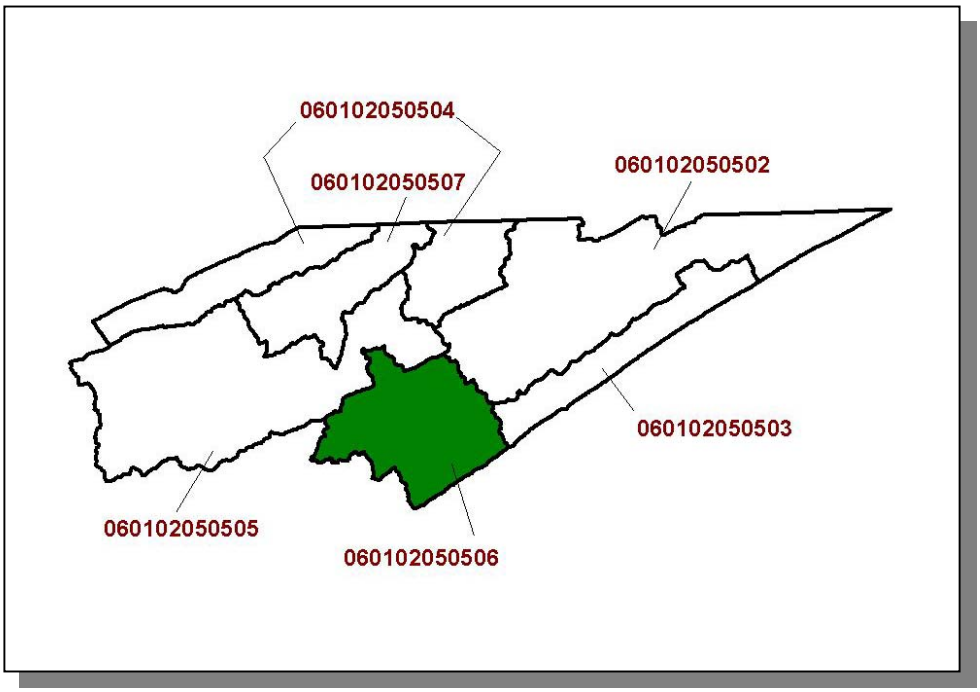


***Figure 4-84. Location of Subwatershed 060102050506.*** *All Upper Clinch River HUC-12 subwatershed boundaries are shown for reference.*

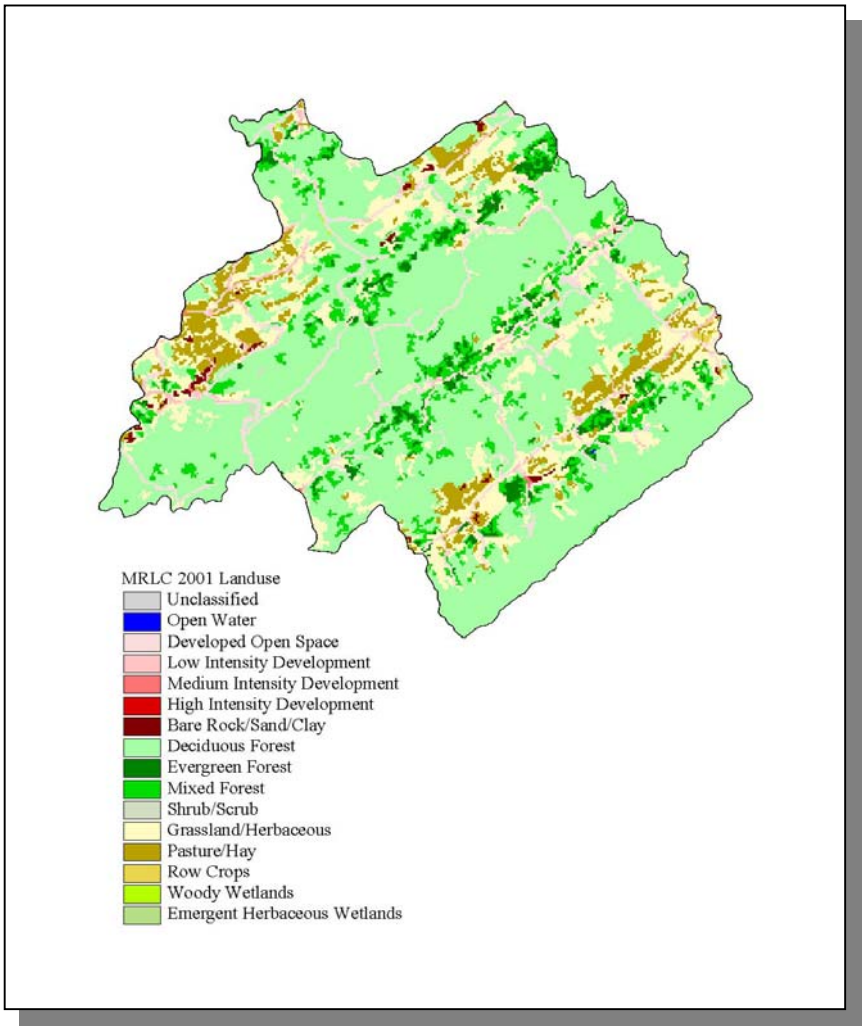


***Figure 4-85. Illustration of Land Use Distribution in Subwatershed 060102050506.***

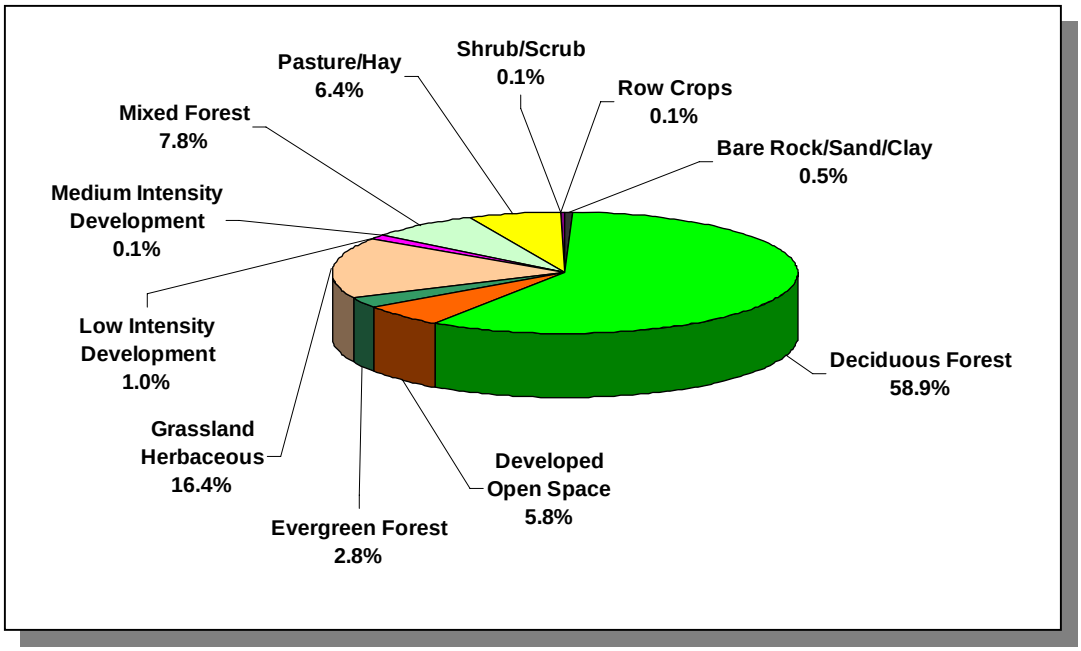


***Figure 4-86. Land Use Distribution in Subwatershed 060102050506.*** *More information is provided in Appendix IV.*

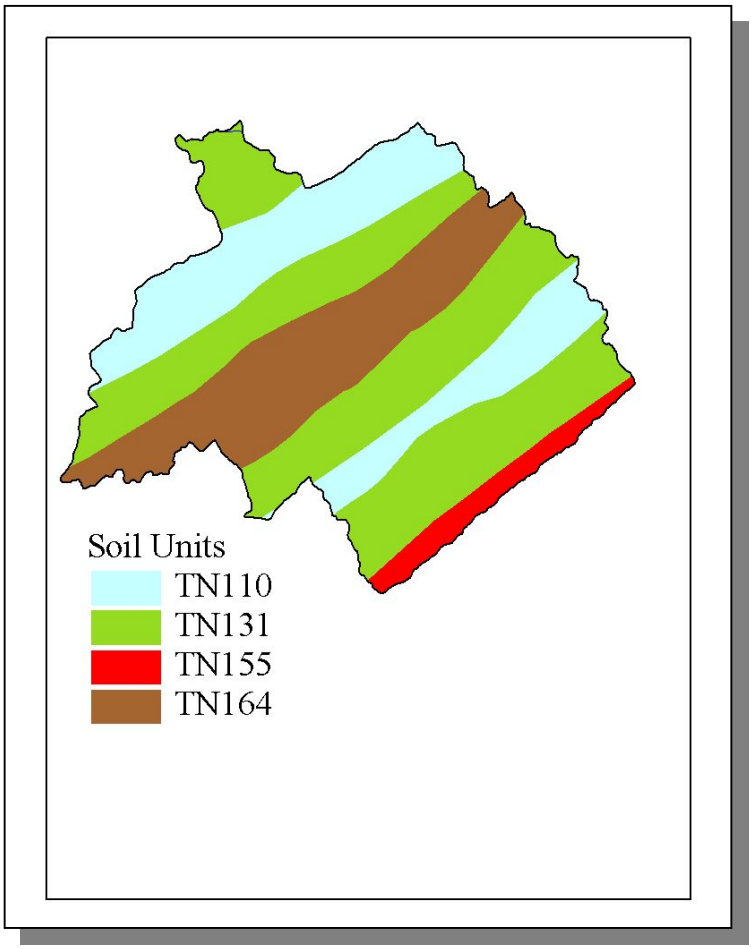


***Figure 4-87. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050506.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN164 | 0.00 | C | 4.48 | 5.15 | Loam | 0.25 |

***Table 4-77. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050506.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

*.*

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Hancock | 6,739 | 6,801 | 6,786 | 2.73 | 184 | 186 | 185 | 0.5 |
| Hawkins | 44,565 | 48,821 | 53,563 | 2.49 | 1,110 | 1,216 | 1,335 | 20.3 |
| **Total** | **51,304** | **55,622** | **60,349** | | **1,294** | **1,402** | **1,520** | **17.5** |

***Table 4-78. Population Estimates in Subwatershed 060102050506.***

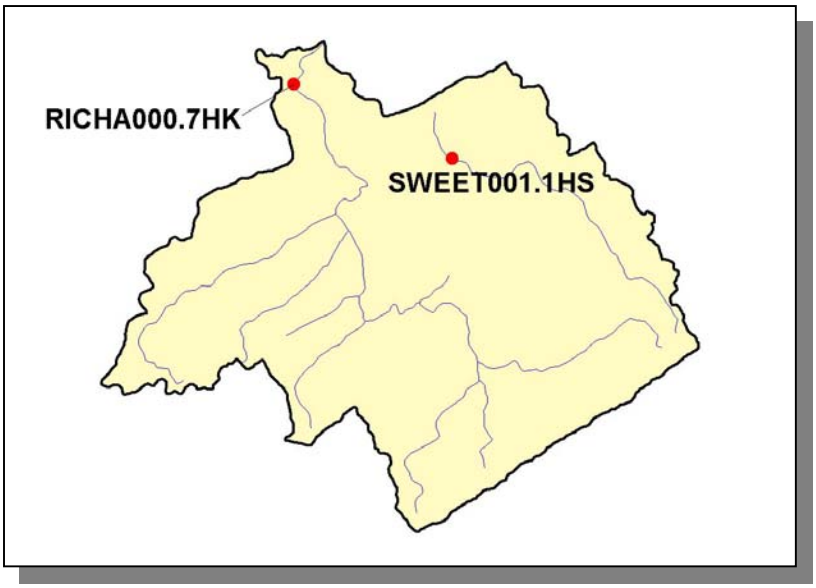


***Figure 4-88. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050506.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.B.v.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.B.v.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 443 | 881 | 12 | <5 | 4 | 5 |

***Table 4-79. Summary of Livestock Count Estimates in Subwatershed 060102050506.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |
| Hawkins | 18,796 | 36,429 | 903 | 1,079 | 442 | 243 |

***Table 4-80. Summary of Livestock Count Estimates in Hancock and Hawkins Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |
| Hawkins | 177.4 | 177.4 | 0.4 | 2.1 |

***Table 4-81. Forest Acreage and Annual Removal Rates (1987-1994) in Hancock and Hawkins Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 1.01 |
| Grass (Hayland) | 0.59 |
| Legumes, Grass (Hayland) | 0.40 |
| Legumes (Hayland) | 0.16 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.62 |
| Corn (Row Crops) | 2.42 |
| Tobacco (Close-Grown Cropland) | 18.57 |
| Other Vegetable and Truck Crops | 33.50 |
| Farmsteads and Ranch Headquarters | 0.28 |

***Table 4-82. Annual Estimated Total Soil Loss in Subwatershed 060102050506.***

4.2.B.vi. 060102050507 (Panther Creek).

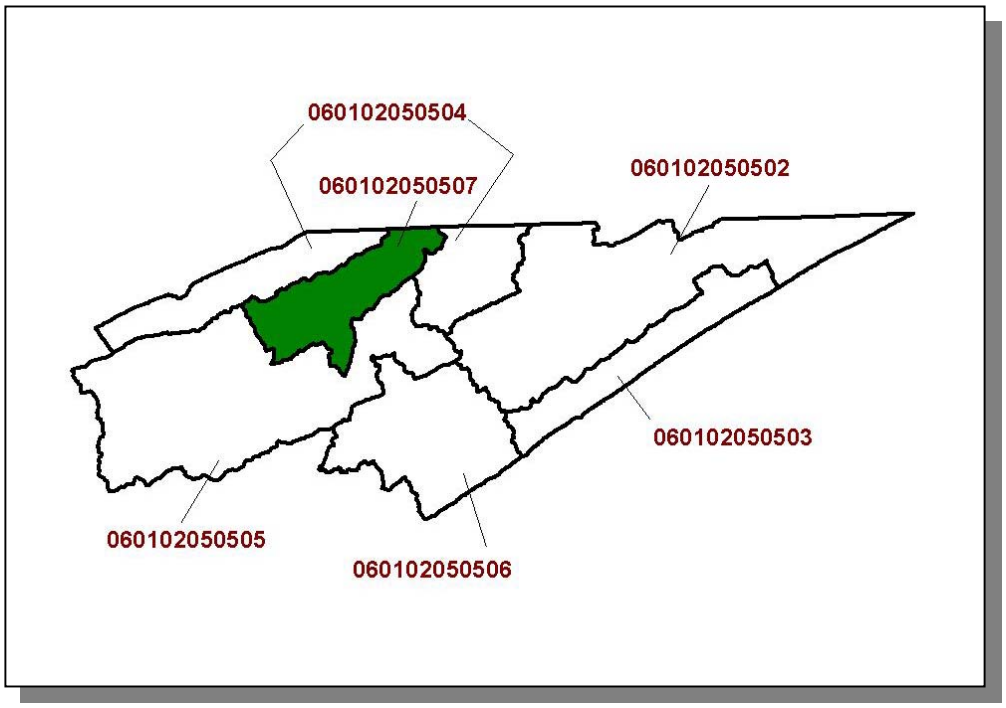


***Figure 4-89. Location of Subwatershed 060102050507.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

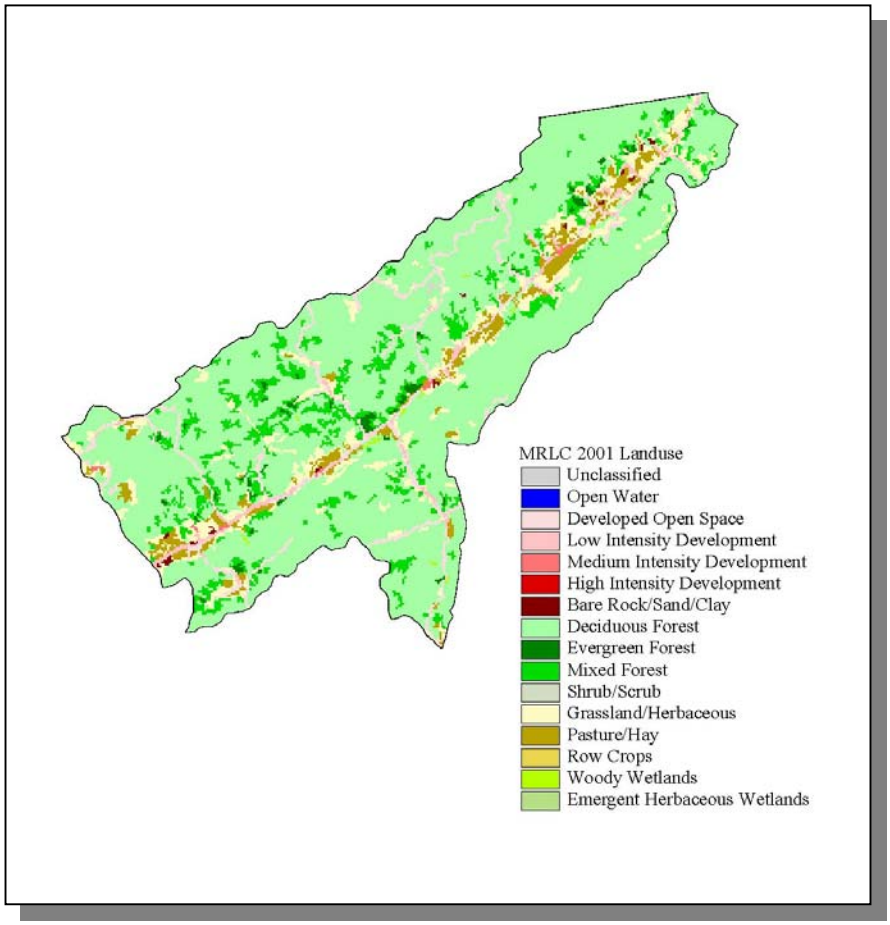


***Figure 4-90. Illustration of Land Use Distribution in Subwatershed 060102050507.***

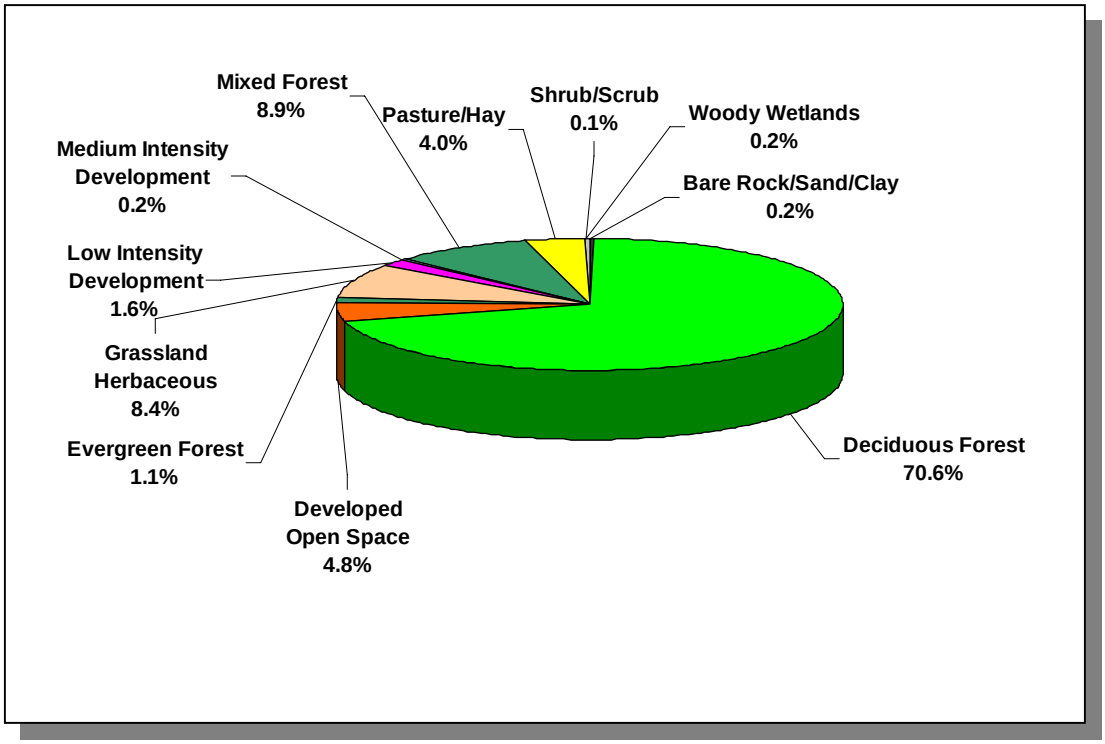


***Figure 4-91. Land Use Distribution in Subwatershed 060102050507.*** *More information is provided in Appendix IV.*

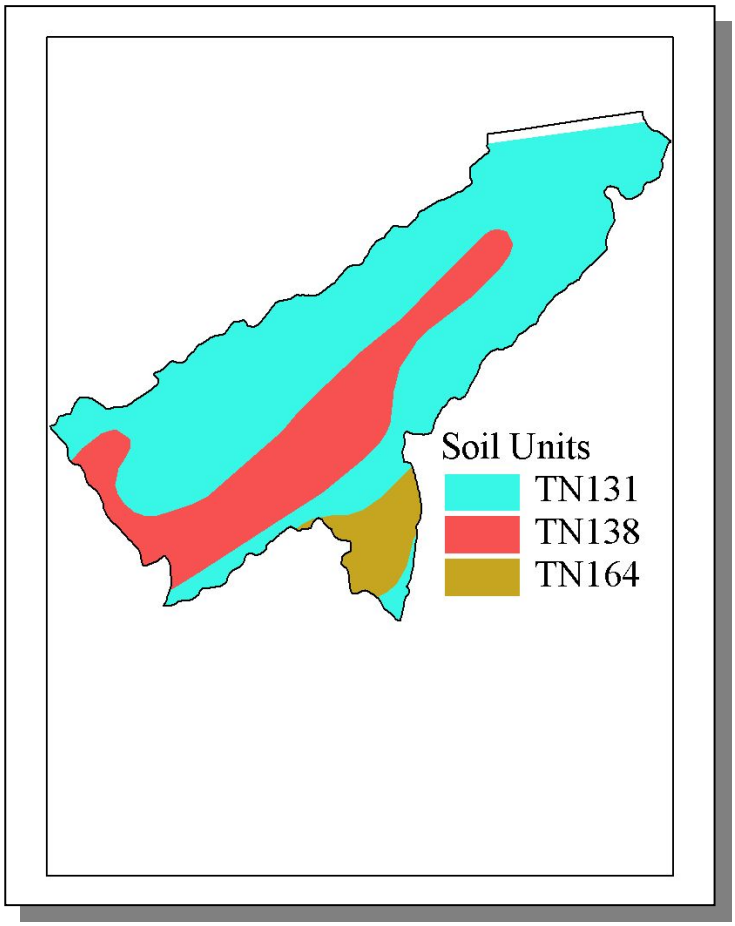


***Figure 4-92. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050507.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN164 | 0.00 | C | 4.48 | 5.15 | Loam | 0.25 |

***Table 4-83. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050507.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Hancock | 6,739 | 6,801 | 6,786 | 5.19 | 350 | 353 | 352 | 0.6 |

***Table 4-84. Population Estimates in Subwatershed 060102050507.***

| | | | NUMBER OF HOUSING UNITS | | | |
|---|---|---|---|---|---|---|
| Populated Place | County | Population | Total | Public Sewer | Septic Tank | Other |
| | | | | | | |
| Sneedville | Hancock | 1,446 | 551 | 451 | 90 | 10 |

***Table 4-85. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 060102050507.***


***Figure 4-93. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050507.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.B.vi.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.B.vi.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | |
|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Sheep |
| | | | |
| 139 | 280 | <5 | <5 |

***Table 4-86. Summary of Livestock Count Estimates in Subwatershed 060102060507.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |

***Table 4-87. Summary of Livestock Count Estimates in Hancock County.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |

***Table 4-88. Forest Acreage and Annual Removal Rates (1987-1994) in Hancock County.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 2.54 |
| Grass (Hayland) | 0.66 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.79 |
| Corn (Row Crops) | 2.42 |
| Tobacco (Row Crops) | 23.03 |
| Farmsteads and Ranch Headquarters | 0.03 |

***Table 4-89. Annual Estimated Total Soil Loss in Subwatershed 060102050507.***

4.2.C. 0601020507.

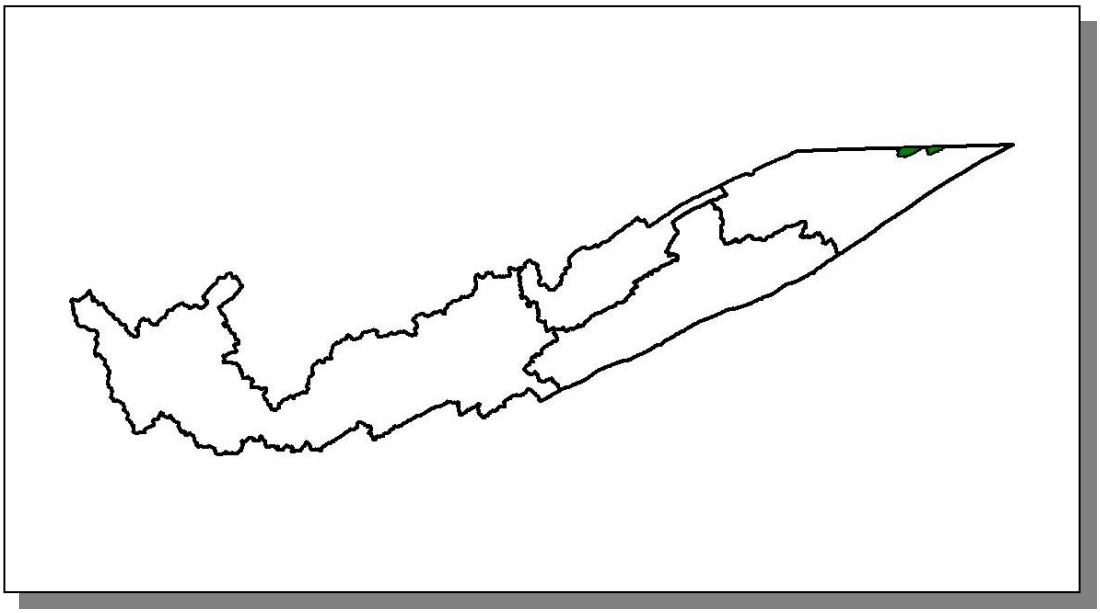

***Figure 4-94. Location of Subwatershed 0601020507.*** *All Upper Clinch River HUC-10 subwatershed boundaries in Tennessee are shown for reference.*

4.2.C.i. 060102050702 (North Fork Clinch River).

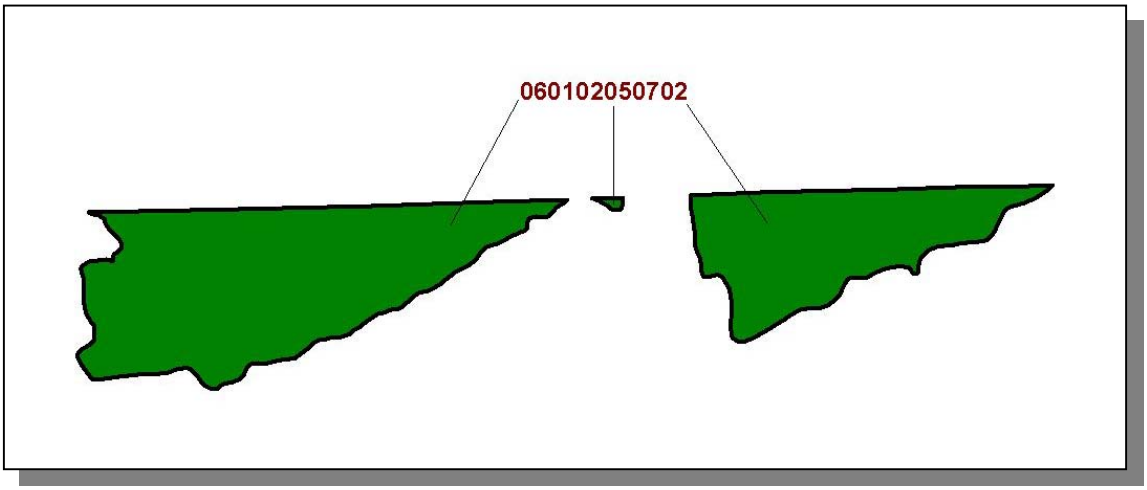


***Figure 4-95. Location of Subwatershed 060102050702.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

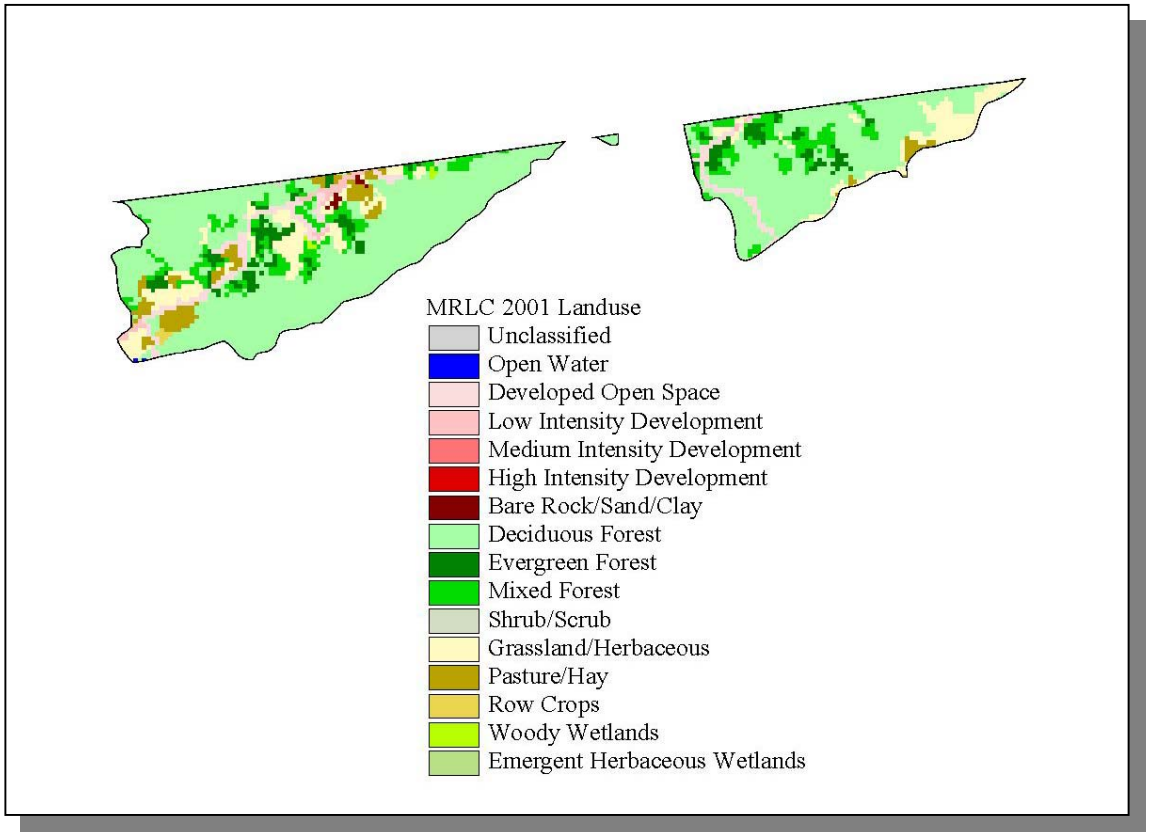


***Figure 4-96. Illustration of Land Use Distribution in Subwatershed 060102050702.***

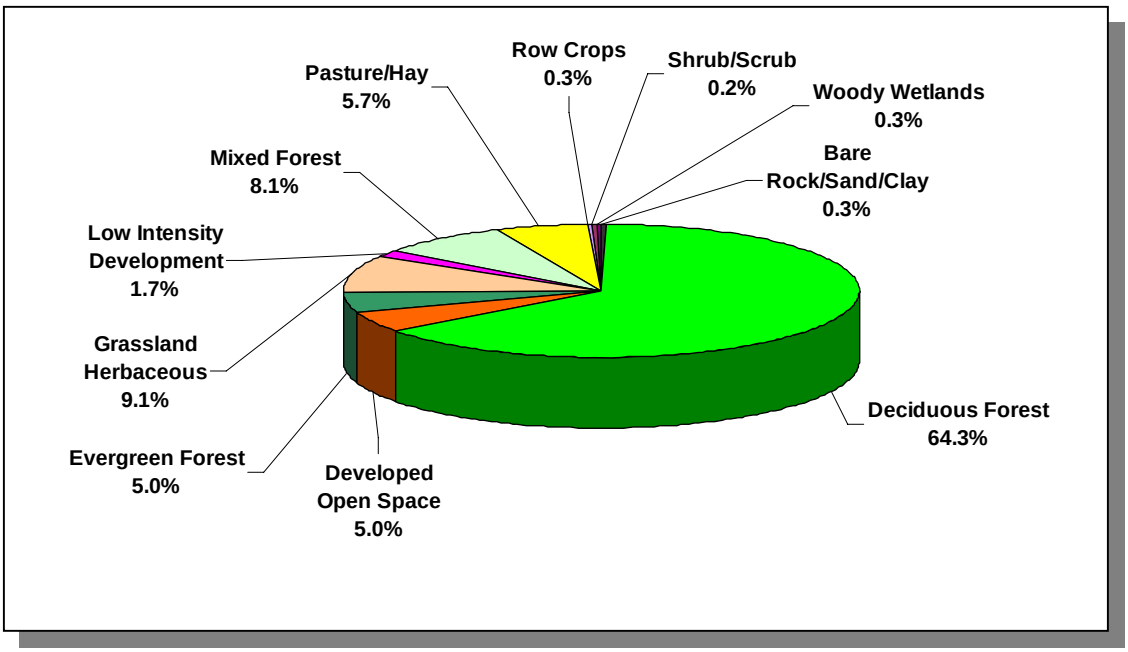


***Figure 4-97. Land Use Distribution in Subwatershed 060102050702.*** *More information is provided in Appendix IV.*

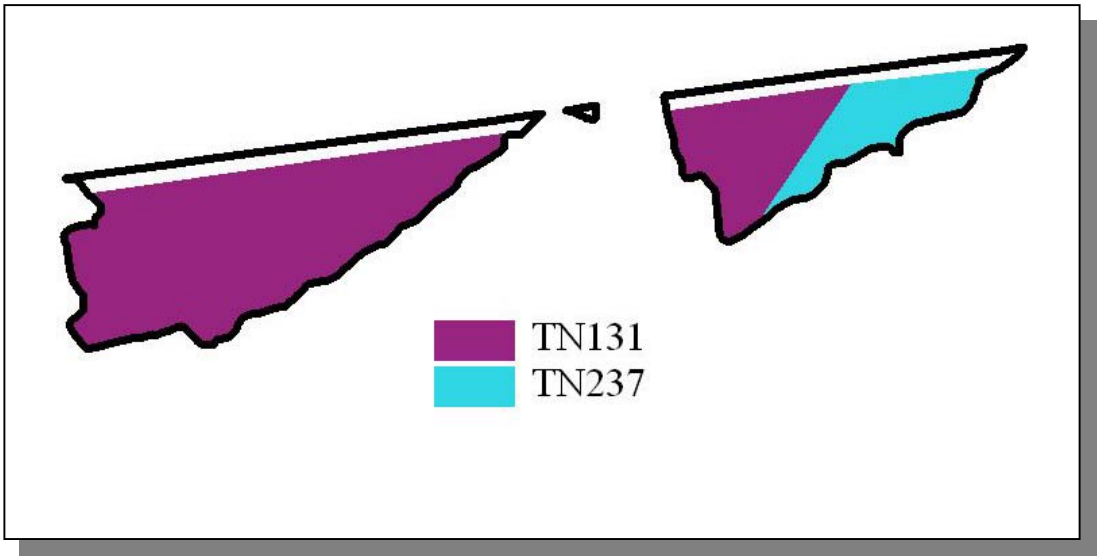


***Figure 4-98. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050702.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN237 | 0.00 | B | 3.36 | 5.40 | Silty Loam | 0.32 |

***Table 4-90. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050702.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Hancock | 6,739 | 6,801 | 6,786 | 0.29 | 19 | 19 | 19 | 0.0 |

***Table 4-91. Population Estimates in Subwatershed 060102050702.***

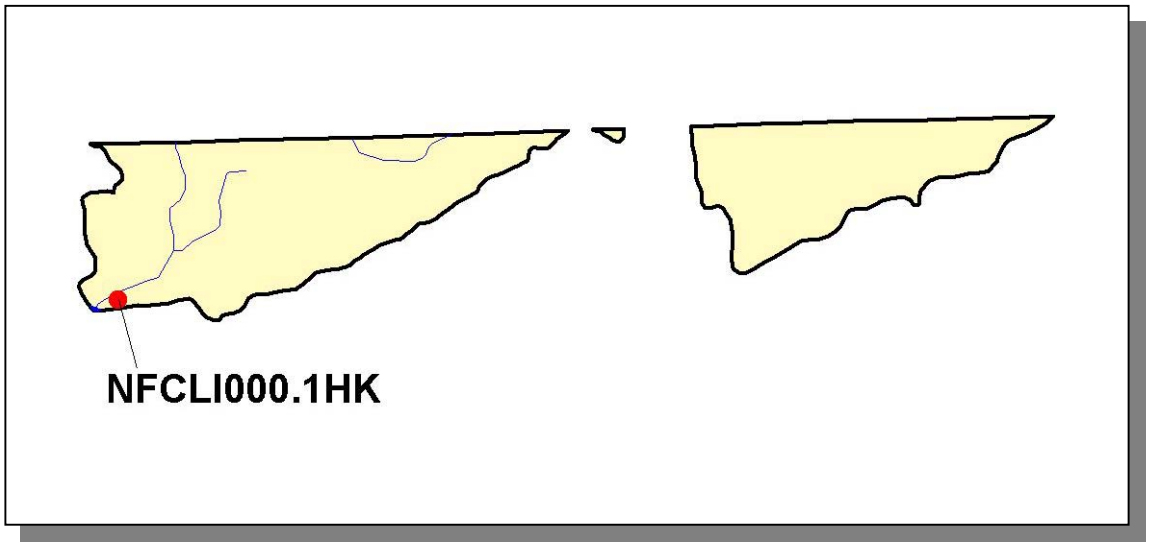


***Figure 4-99. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050702.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

## 4.2.C.i.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

## 4.2.C.i.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | |
|---|---|
| Beef Cow | Cattle |
| | |
| 13 | 26 |

***Table 4-92. Summary of Livestock Count Estimates in Subwatershed 060102050702.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |

***Table 4-93. Summary of Livestock Count Estimates in Hancock County.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |

***Table 4-94. Forest Acreage and Annual Removal Rates (1987-1994) in Hancock County.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 2.54 |
| Grass (Hayland) | 0.66 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.79 |
| Corn (Row Crops) | 2.42 |
| Tobacco (Row Crops) | 23.03 |
| Farmsteads and Ranch Headquarters | 0.03 |

***Table 4-95. Annual Estimated Total Soil Loss in Subwatershed 060102050702.***

4.2.D. 0601020508.

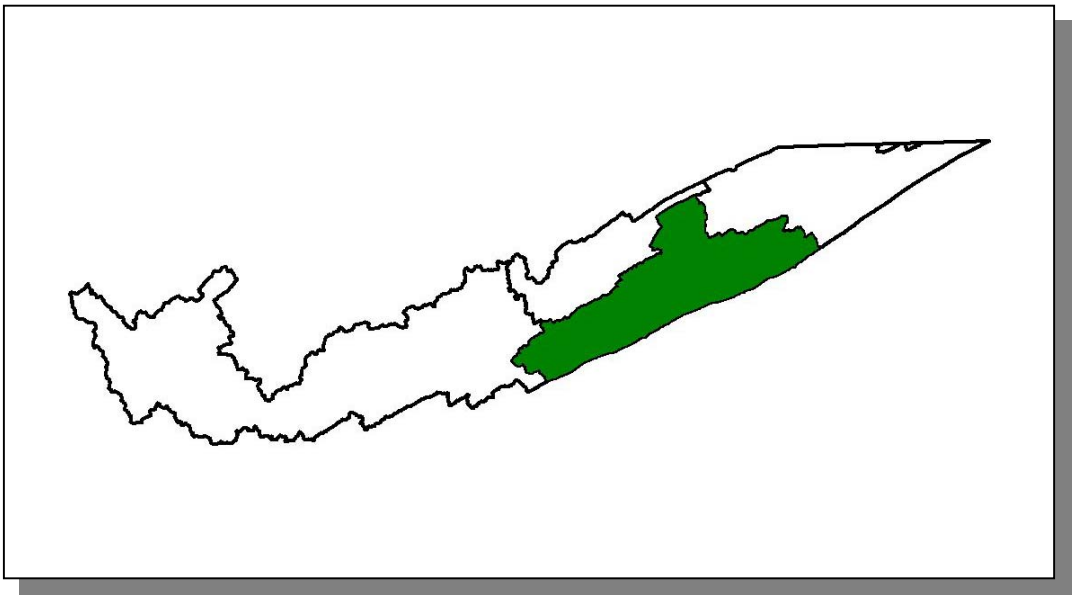

***Figure 4-100. Location of Subwatershed 0601020508.*** *All Upper Clinch River HUC-10 subwatershed boundaries in Tennessee are shown for reference.*

4.2.D.i. 060102050801 (Clinch River).

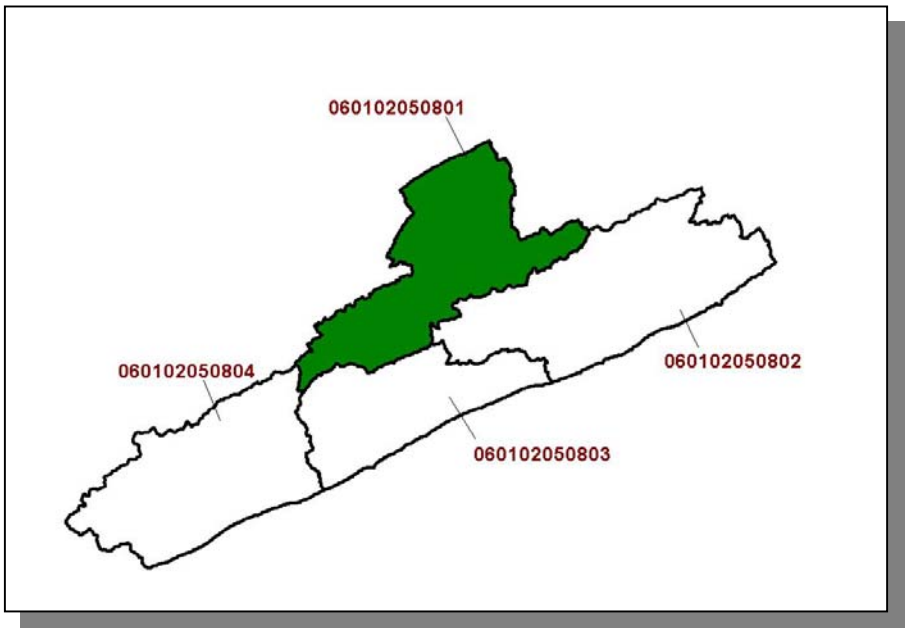


***Figure 4-101. Location of Subwatershed 060102050801.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

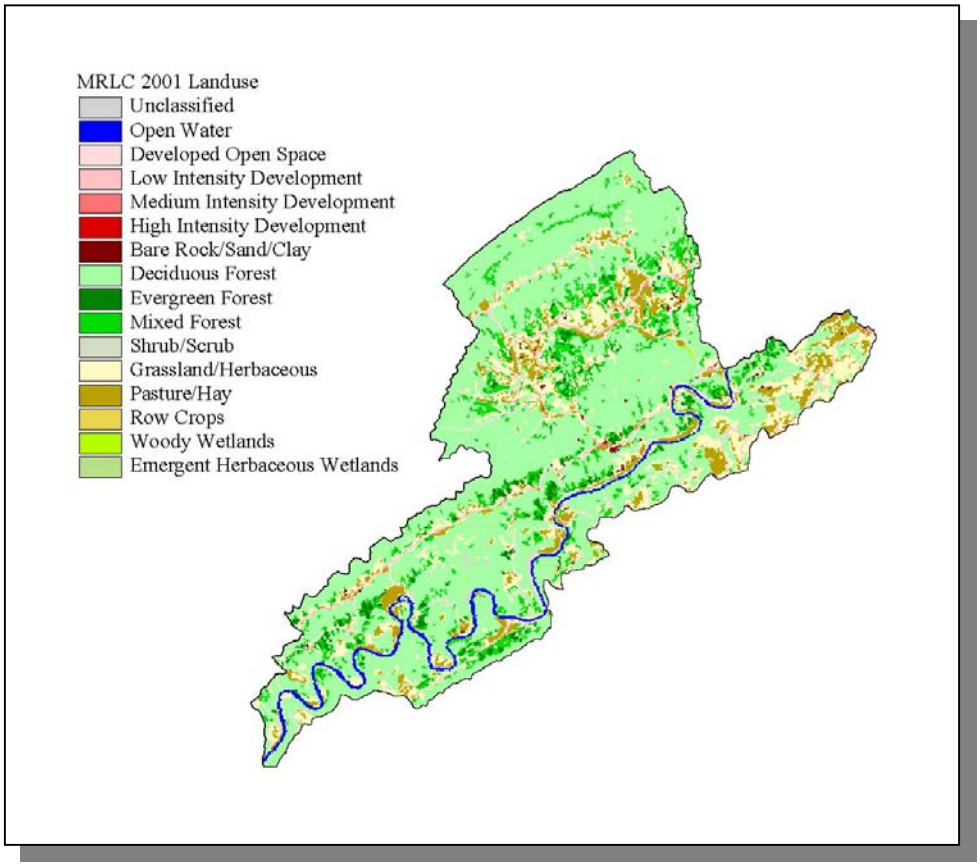


***Figure 4-102. Illustration of Land Use Distribution in Subwatershed 060102050801.***

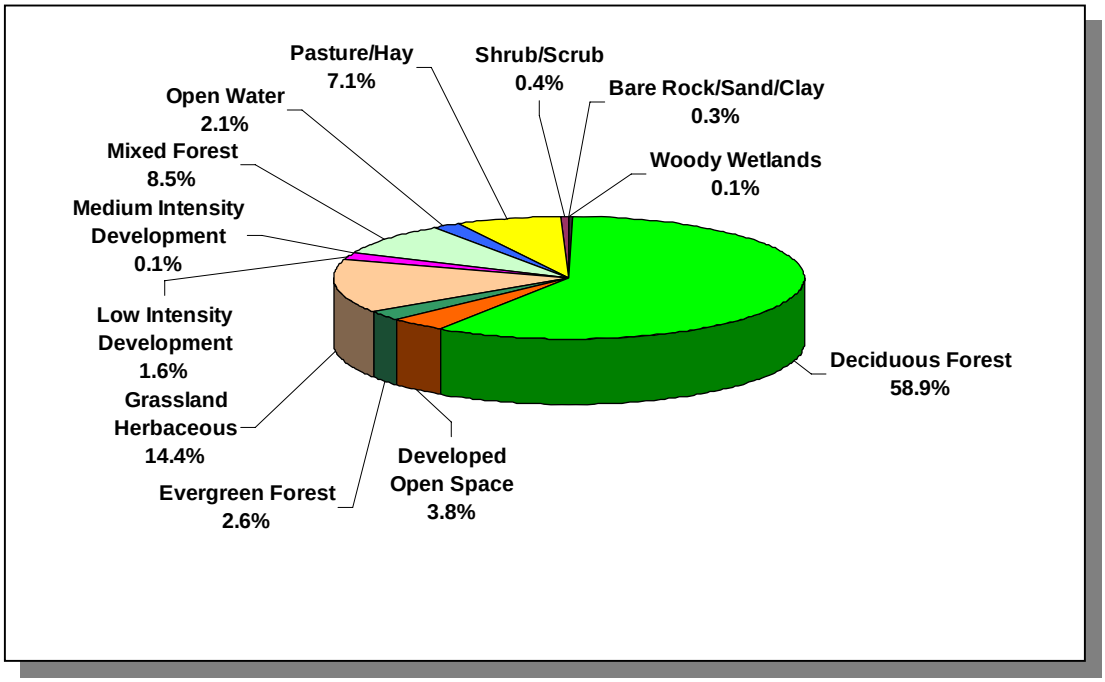


***Figure 4-103. Land Use Distribution in Subwatershed 060102050801.*** *More information is provided in Appendix IV.*

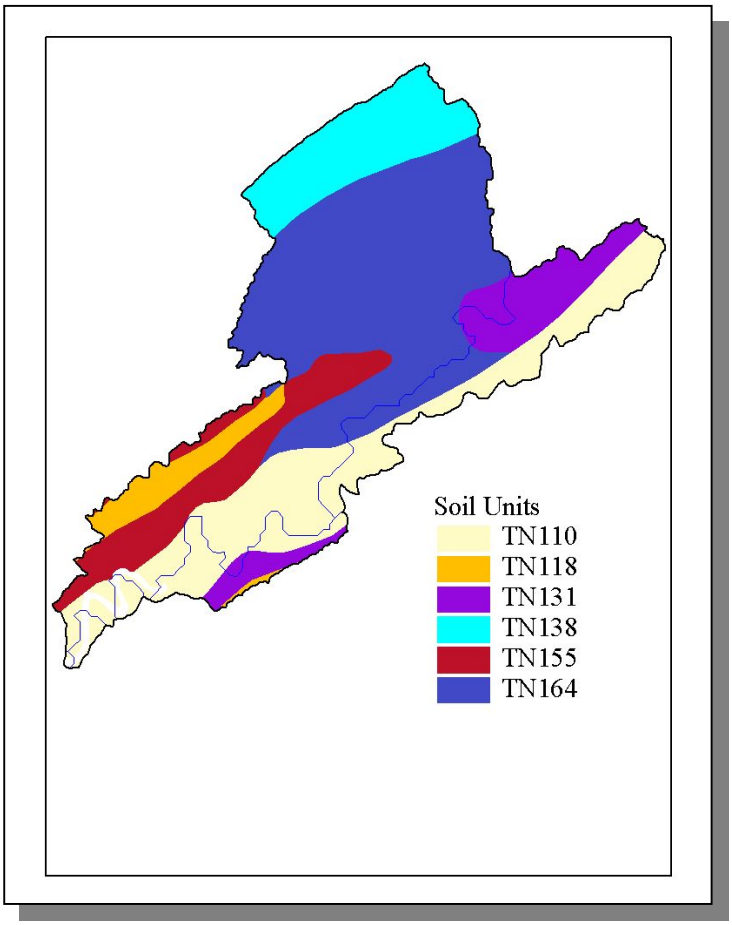


***Figure 4-104. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050801.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN164 | 0.00 | C | 4.48 | 5.15 | Loam | 0.25 |

***Table 4-96. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050801.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Claiborne | 26,137 | 28,963 | 29,862 | 2.03 | 532 | 589 | 607 | 14.1 |
| Grainger | 17,095 | 19,456 | 20,659 | 0.57 | 97 | 110 | 117 | 20.6 |
| Hancock | 6,739 | 6,801 | 6,786 | 13.1 | 883 | 891 | 889 | 0.7 |
| **Total** | **49,971** | **55,220** | **57,307** | | **1,512** | **1,590** | **1,613** | **6.7** |

***Table 4-97. Population Estimates in Subwatershed 060102050801.***

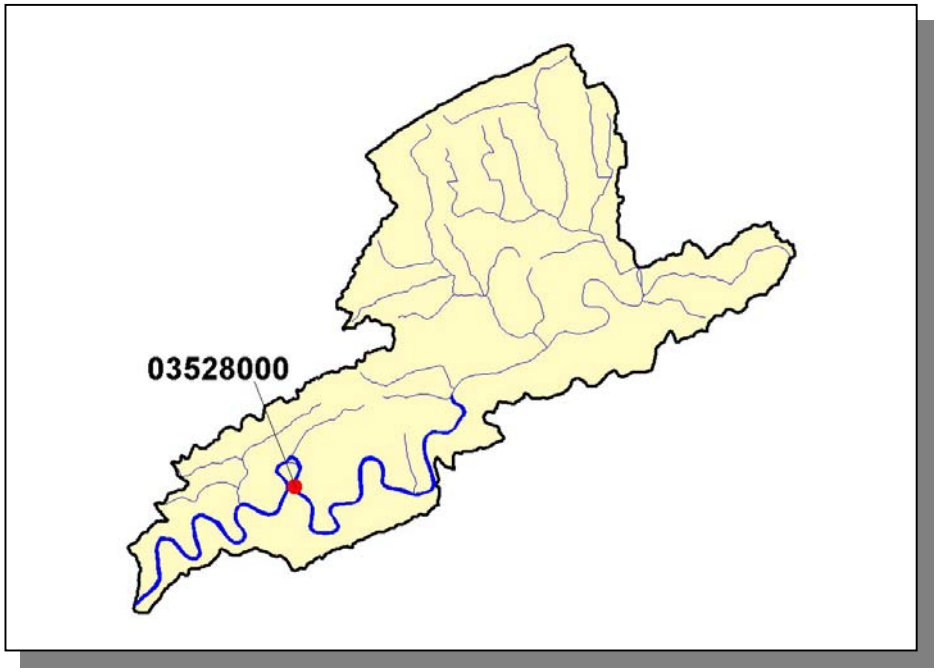


***Figure 4-105. Location of Historical Streamflow Data Collection Sites in Subwatershed 060102050801.*** *More information is provided in Appendix IV.*

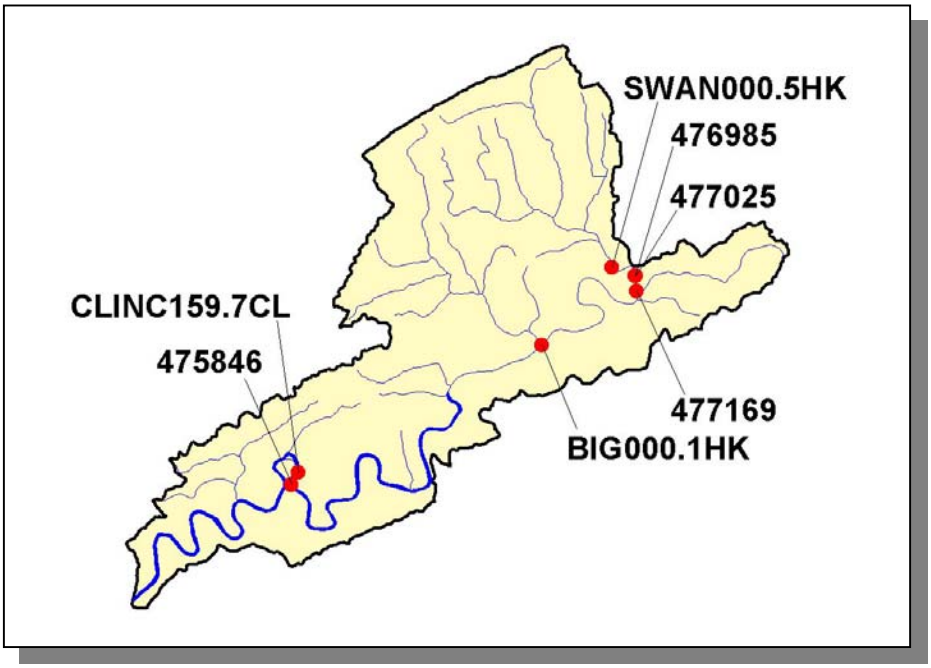


***Figure 4-106. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050801.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

## 4.2.D.i.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

## 4.2.D.i.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 922 | 1,855 | 18 | <5 | <5 | 9 |

***Table 4-98. Summary of Livestock Count Estimates in Subwatershed 060102050801.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Claiborne | 18,697 | 36,566 | 1,082 | 420 | 0 | 165 |
| Grainger | 12,115 | 23,927 | 942 | 1,184 | 510 | 195 |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |

***Table 4-99. Summary of Livestock Count Estimates in Claiborne, Grainger, and Hancock Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Claiborne | 167.6 | 167.6 | 2.6 | 12.1 |
| Grainger | 102.6 | 102.6 | 0.3 | 1.8 |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |

***Table 4-100. Forest Acreage and Annual Removal Rates (1987-1994) in Claiborne, Grainger, and Hancock Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 1.97 |
| Grass (Hayland) | 0.64 |
| Legumes, Grass (Hayland) | 0.60 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.64 |
| Corn (Row Crops) | 2.61 |
| Tobacco (Row Crops) | 22.13 |
| Farmsteads and Ranch Headquarters | 0.15 |

***Table 4-101. Annual Estimated Total Soil Loss in Subwatershed 060102050801.***

4.2.D.ii. 060102050802 (Big War Creek).

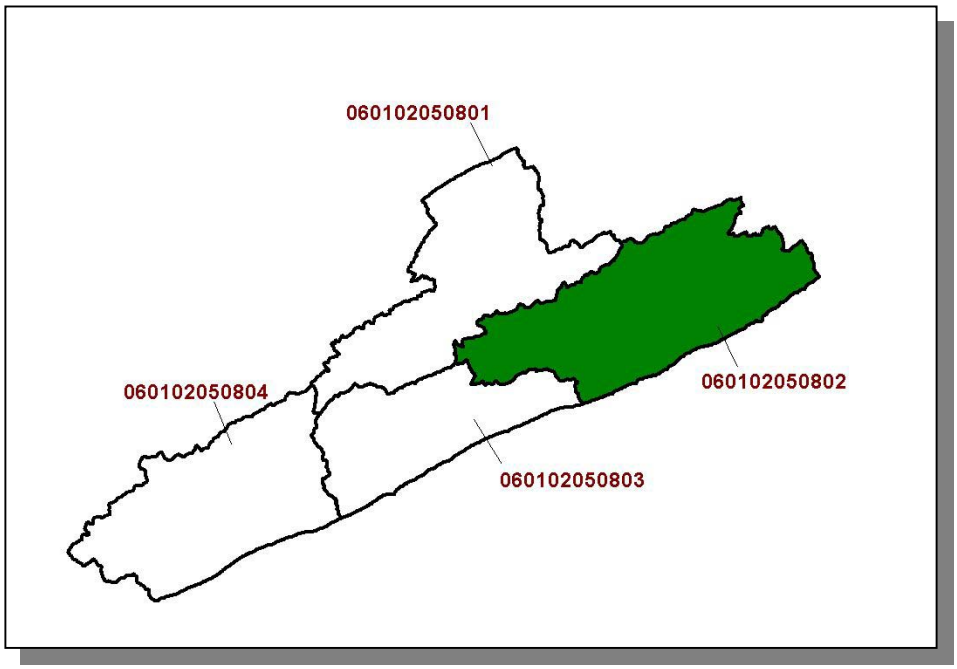


***Figure 4-107. Location of Subwatershed 060102050802.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

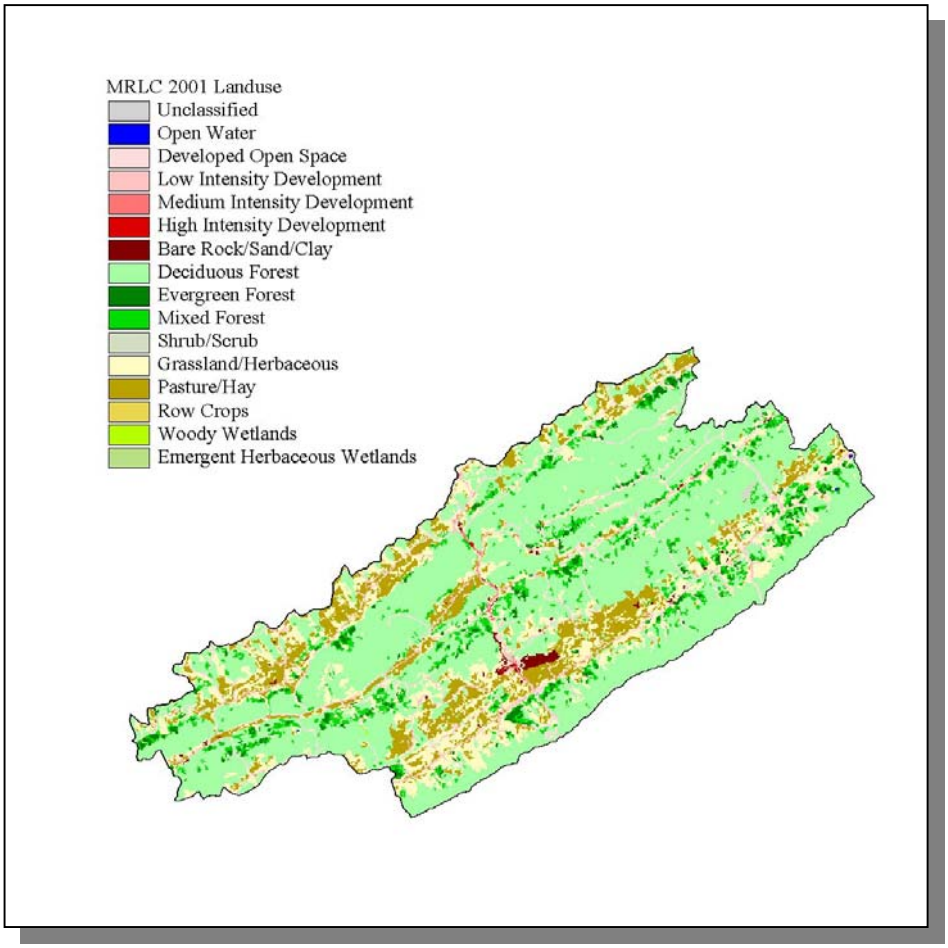


***Figure 4-108. Illustration of Land Use Distribution in Subwatershed 060102050802.***

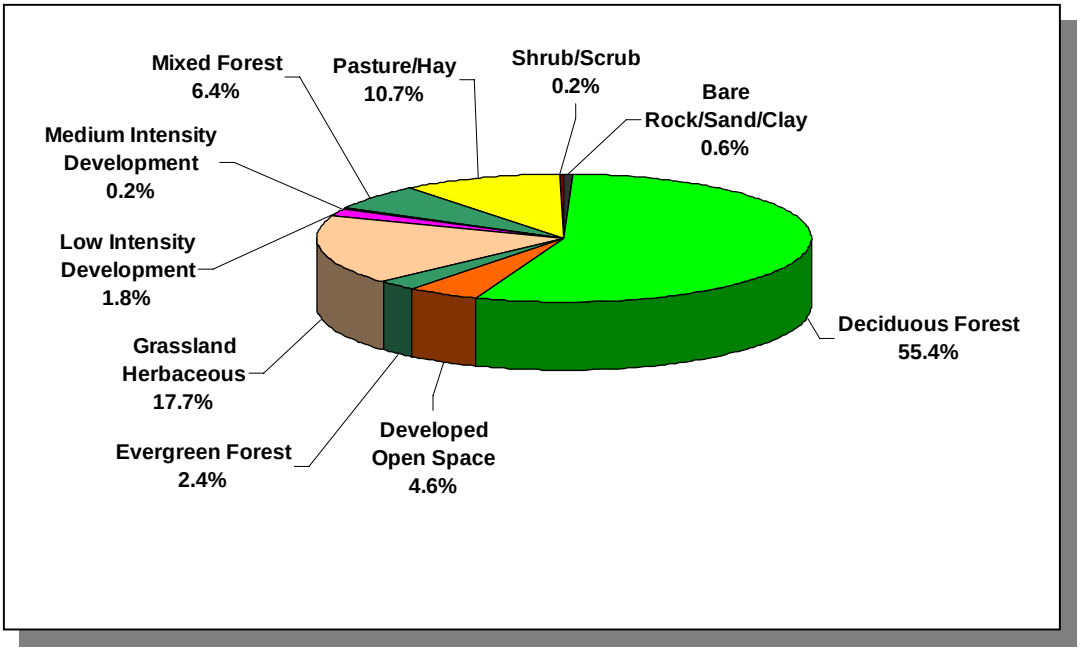


***Figure 4-109. Land Use Distribution in Subwatershed 060102050802.*** *More information is provided in Appendix IV.*

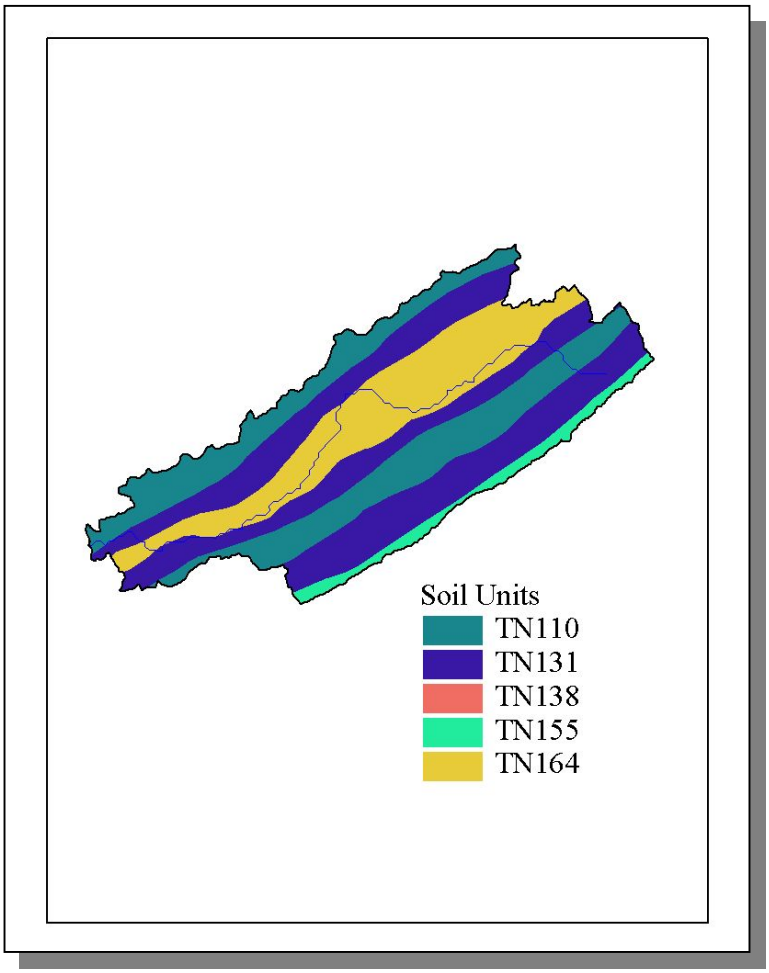


***Figure 4-110. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050802.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN164 | 0.00 | C | 4.48 | 5.15 | Loam | 0.25 |

***Table 4-102. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050802.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Grainger | 17,095 | 19,456 | 20,659 | 0.09 | 16 | 18 | 19 | 18.8 |
| Hancock | 6,739 | 6,801 | 6,786 | 17.32 | 1,167 | 1,178 | 1,175 | 0.7 |
| Hawkins | 44,565 | 48,821 | 53,563 | 1.91 | 852 | 934 | 1,025 | 20.3 |
| **Total** | **68,399** | **75,078** | **81,008** | | **2,035** | **2,130** | **2,219** | **9.0** |

***Table 4-103. Population Estimates in Subwatershed 060102050802.***

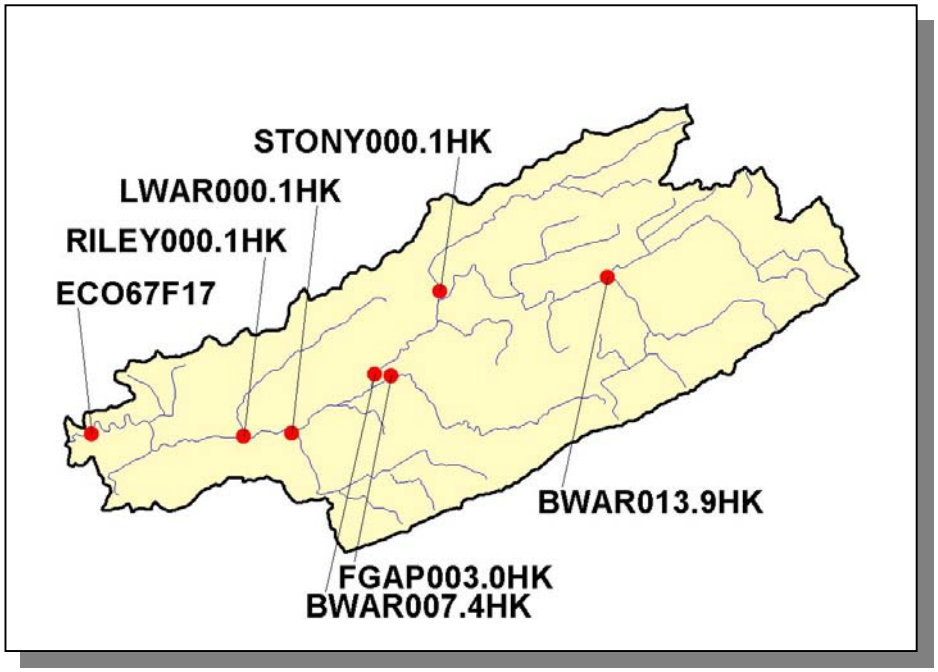


***Figure 4-111. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050802.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.D.ii.a. Point Source Contributions.

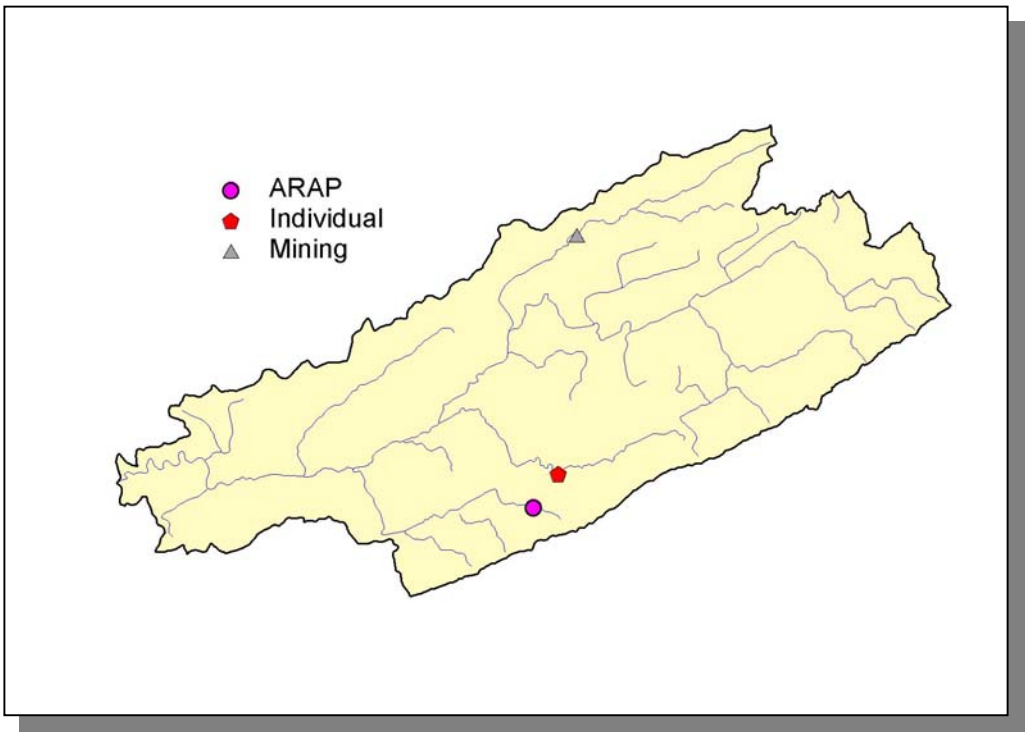


***Figure 4-112. Location of Permits Issued in Subwatershed 060102050802.*** *More information, including the names of facilities, is provided in Appendix IV.*

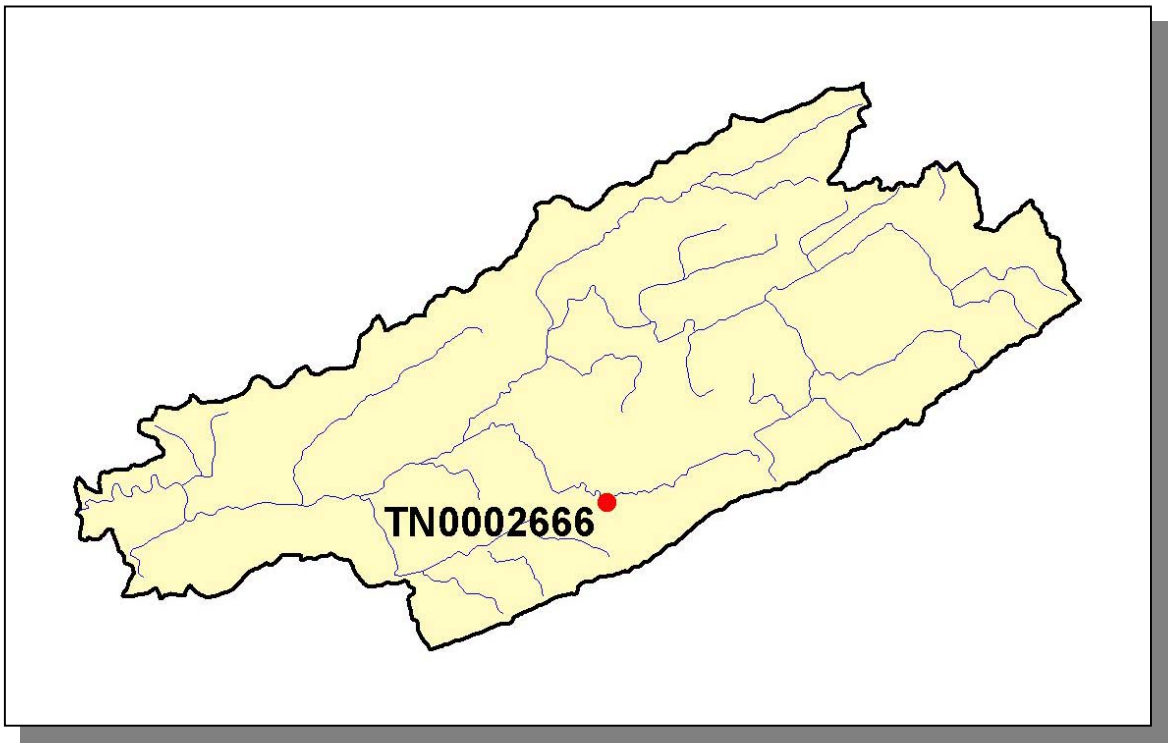


***Figure 4-113. Location of Active NPDES Sites in Subwatershed 060102050802.*** *More information, including the names of facilities, is provided in Appendix IV.*

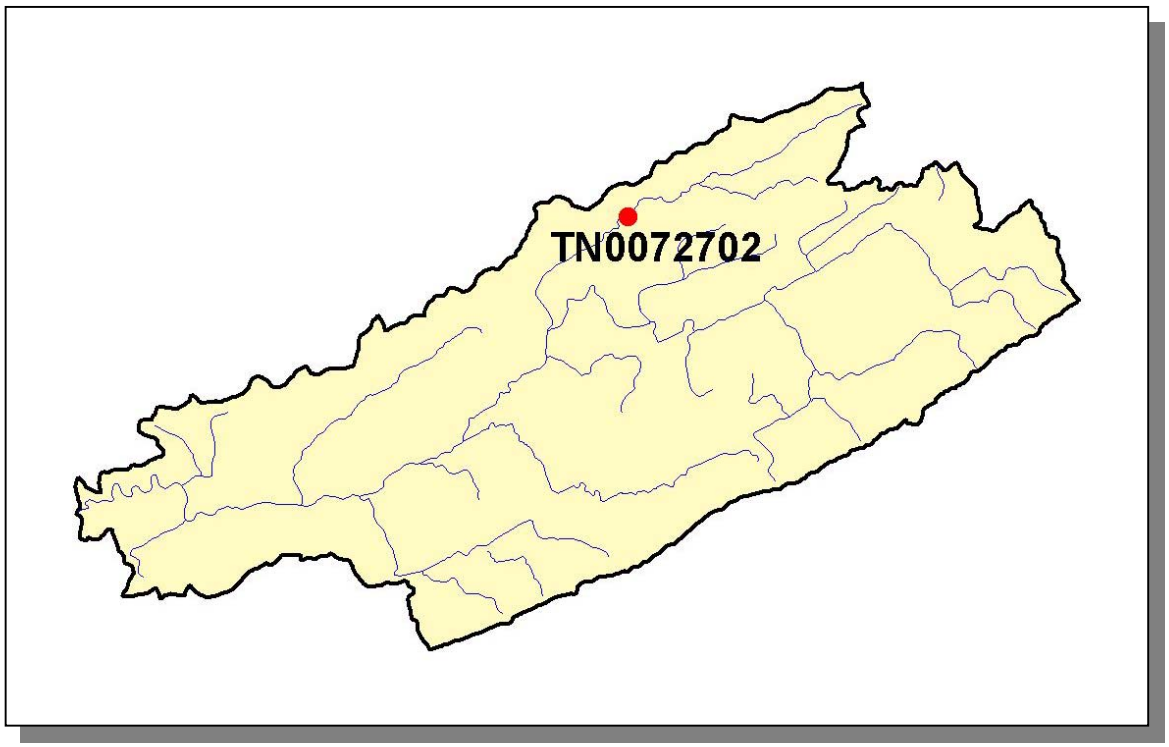


***Figure 4-114. Location of Active Mining Sites in Subwatershed 060102050802.*** *More information, including the names of mining operations, is provided in Appendix IV.*

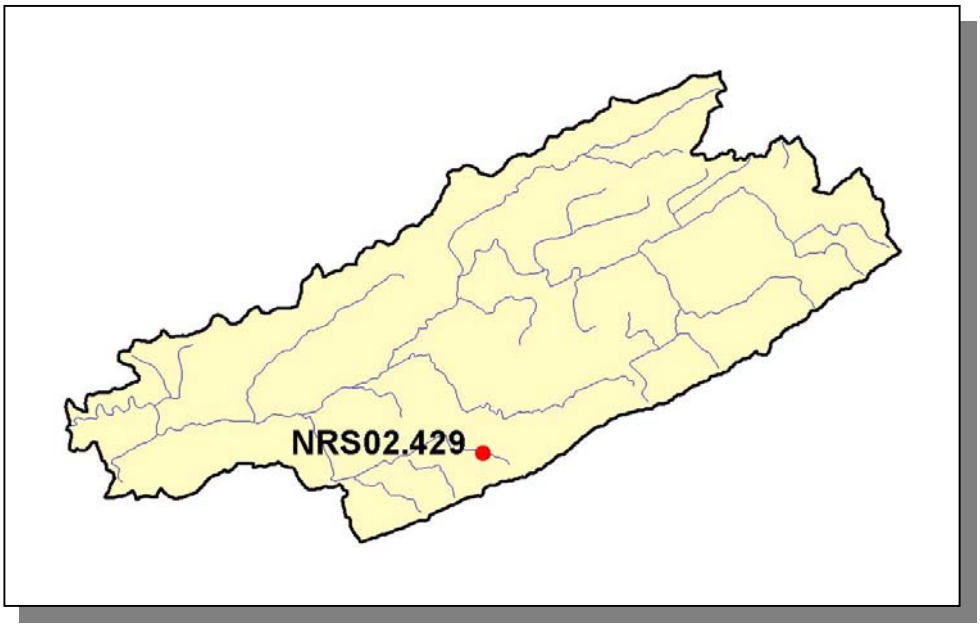


***Figure 4-115. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 060102050802.*** *More information is provided in Appendix IV.*

4.2.D.ii.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 060102050802:

- TN0002666 (Treadway Water and Sewer STP) discharges to Flat Gap Creek @ RM 3.0 and Big War Creek @ RM 7.0

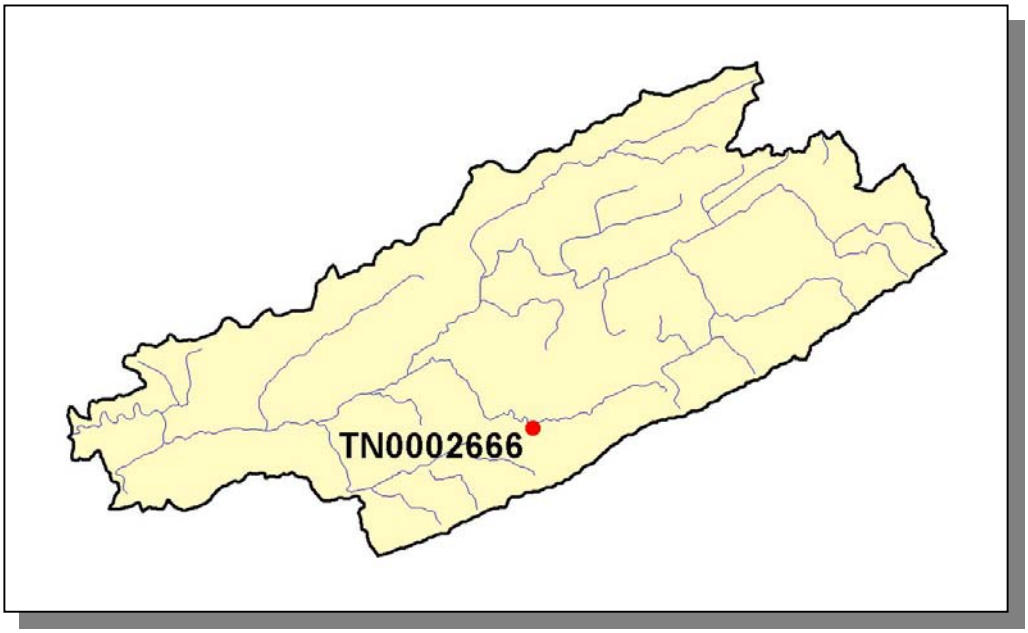


***Figure 4-116. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 060102050802.*** *More information, including the names of facilities, is provided in Appendix IV.*

| PERMIT # | 1Q10 | 3Q10 | 7Q10 | 3Q20 | QDESIGN |
|---|---|---|---|---|---|
| TN0002666 | | | | 0 | |

***Table 4-104. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050802.*** *Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.*

| PERMIT # | FLOW |
|---|---|
| TN0002666 | X |

***Table 4-105. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050802.***

| PERMIT # | $CBOD_5$ | FECAL COLIFORM | $NH_3$ | TRC | TSS | SETTLEABLE SOLIDS | DO | pH |
|---|---|---|---|---|---|---|---|---|
| TN0002666 | X | X | X | X | X | X | X | X |

***Table 4-106. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 060102050802.*** *$CBOD_5$, Carbonaceous Biochemical Oxygen Demand (5-Day); TRC, Total Residual Chlorine; TSS, Total Suspended Solids.*

4.2.D.ii.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 1,857 | 3,734 | 31 | 5 | 5 | 18 |

***Table 4-107. Summary of Livestock Count Estimates in Subwatershed 060102050802.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Grainger | 12,115 | 23,927 | 942 | 1,184 | 510 | 195 |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |
| Hawkins | 18,796 | 36,429 | 903 | 1,079 | 442 | 243 |

***Table 4-108. Summary of Livestock Count Estimates in Grainger, Hancock and Hawkins Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Grainger | 102.6 | 102.6 | 0.3 | 1.8 |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |
| Hawkins | 177.4 | 177.4 | 0.4 | 2.1 |

***Table 4-109. Forest Acreage and Annual Removal Rates (1987-1994) in Grainger, Hancock, and Hawkins Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 2.08 |
| Grass (Hayland) | 0.63 |
| Legumes, Grass (Hayland) | 0.41 |
| Legumes (Haylands) | 0.16 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.74 |
| Corn (Row Crops) | 2.44 |
| Tobacco (Row Crops) | 21.62 |
| Other Vegetable and Truck Crops | 33.50 |
| Farmsteads and Ranch Headquarters | 0.11 |

***Table 4-110. Annual Estimated Total Soil Loss in Subwatershed 060102050802.***

4.2.D.iii. 060102050803 (Indian Creek).

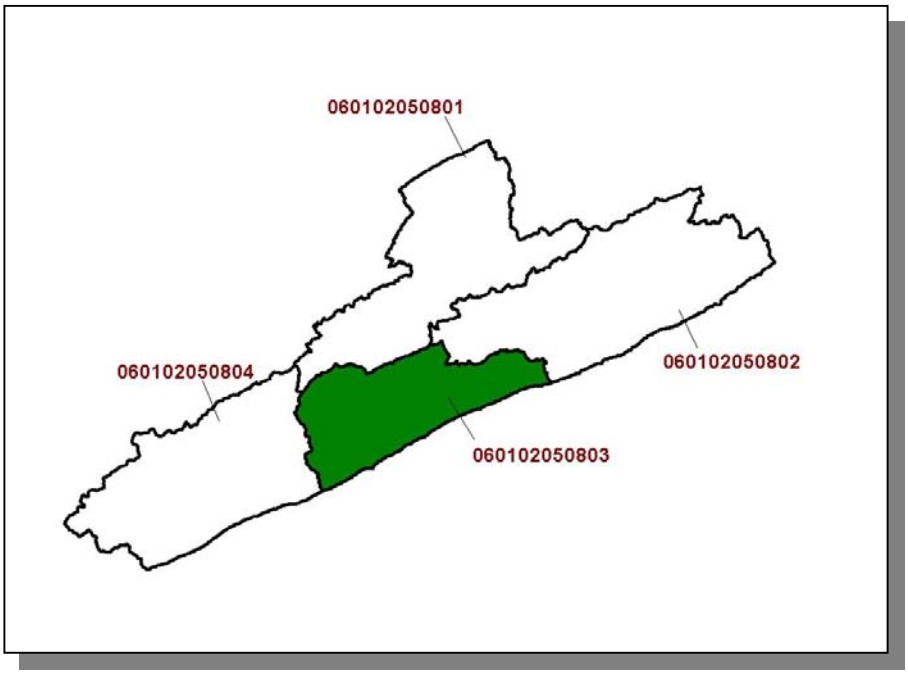


***Figure 4-117. Location of Subwatershed 060102050803.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

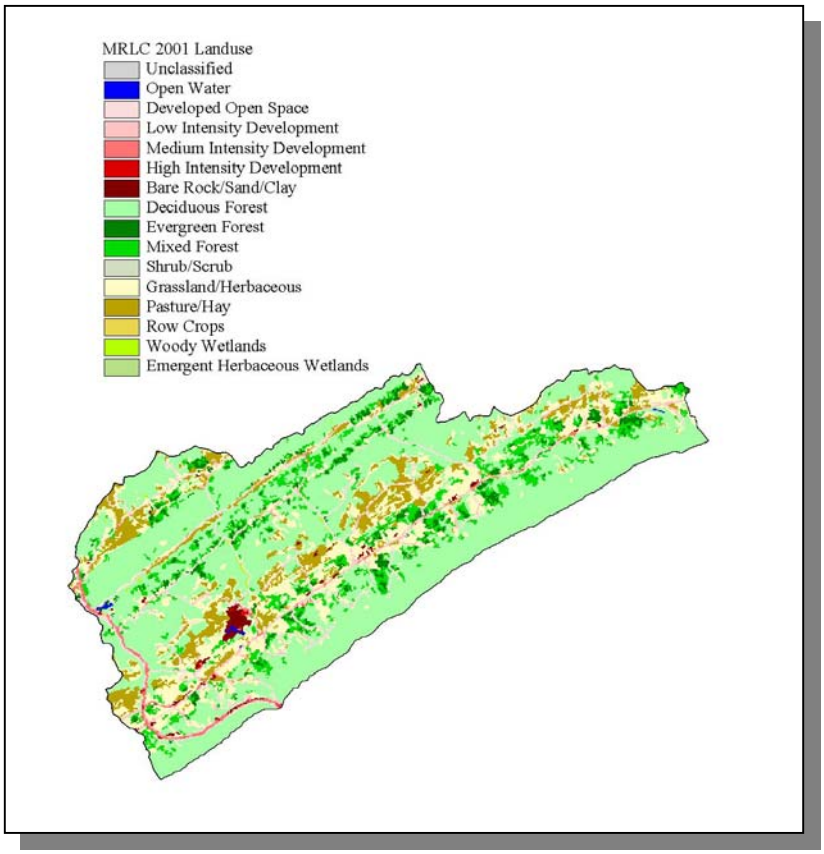


***Figure 4-118. Illustration of Land Use Distribution in Subwatershed 060102050803.***

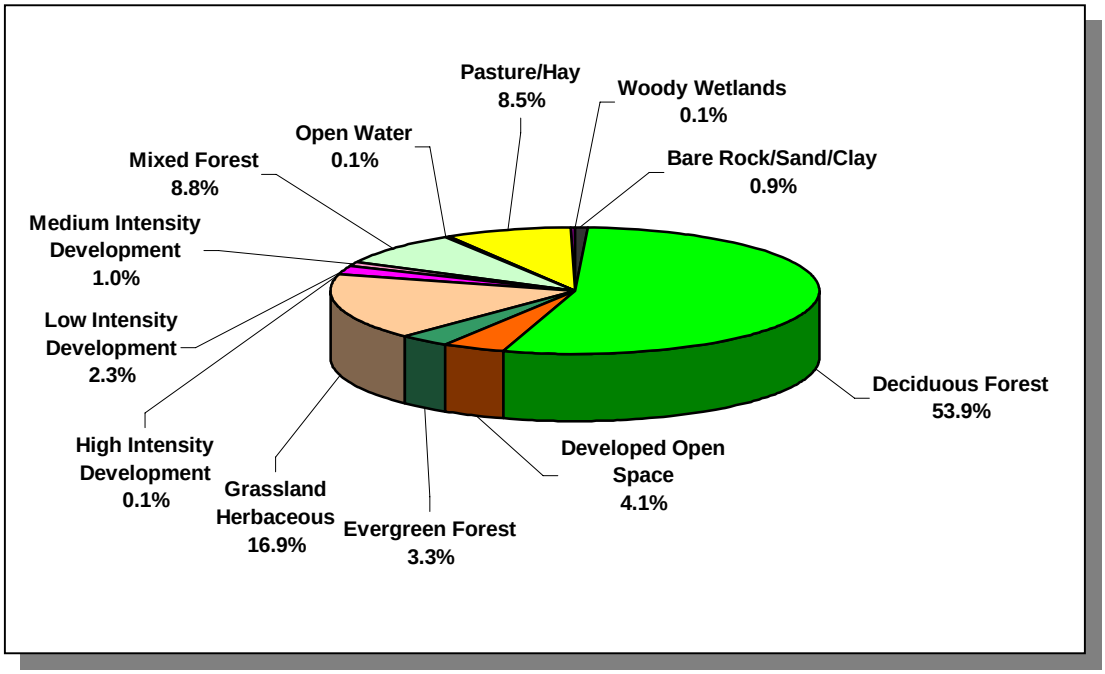


***Figure 4-119. Land Use Distribution in Subwatershed 060102050803.*** *More information is provided in Appendix IV.*

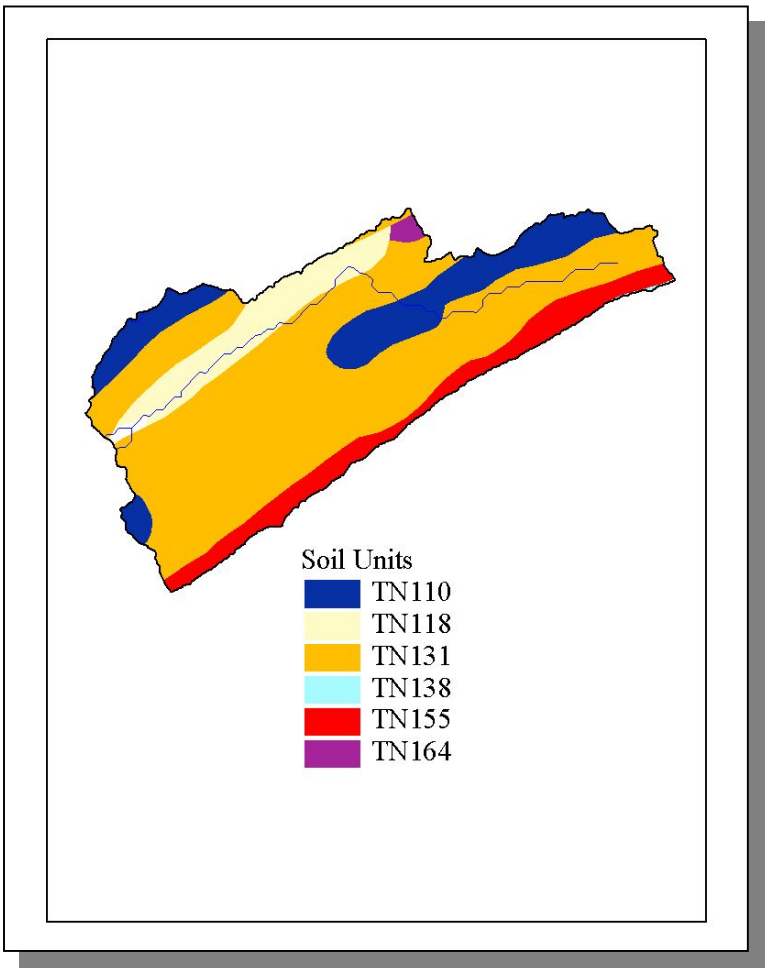


***Figure 4-120. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050803.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN164 | 0.00 | C | 4.48 | 5.15 | Loam | 0.25 |

***Table 4-111. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050803.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

*.*

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Grainger | 17,095 | 19,456 | 20,659 | 7.98 | 1,364 | 1,552 | 1,648 | 20.8 |
| Hancock | 6,739 | 6,801 | 6,786 | 1.55 | 104 | 105 | 105 | 1.0 |
| **Total** | **23,834** | **16,257** | **27,445** | | **1,468** | **1,657** | **1,753** | **19.4** |

***Table 4-112. Population Estimates in Subwatershed 060102050803.***

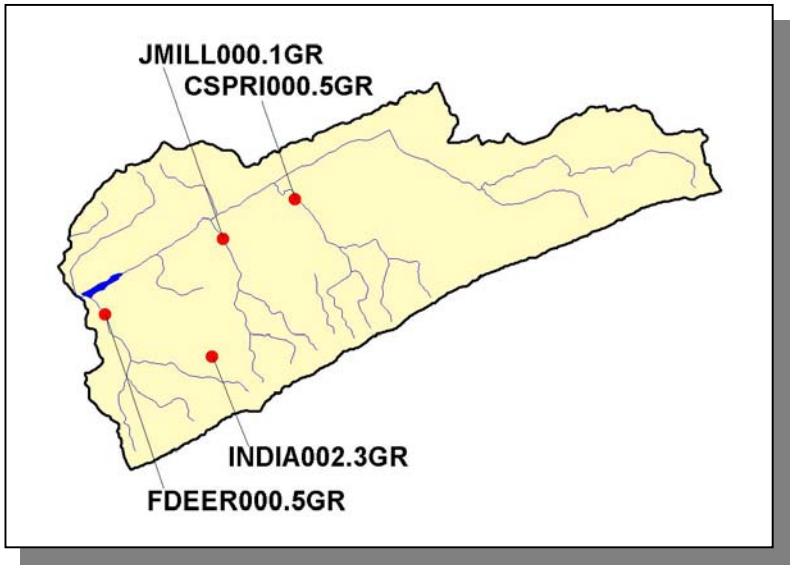


***Figure 4-121. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050803.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.D.iii.a. Point Source Contributions.

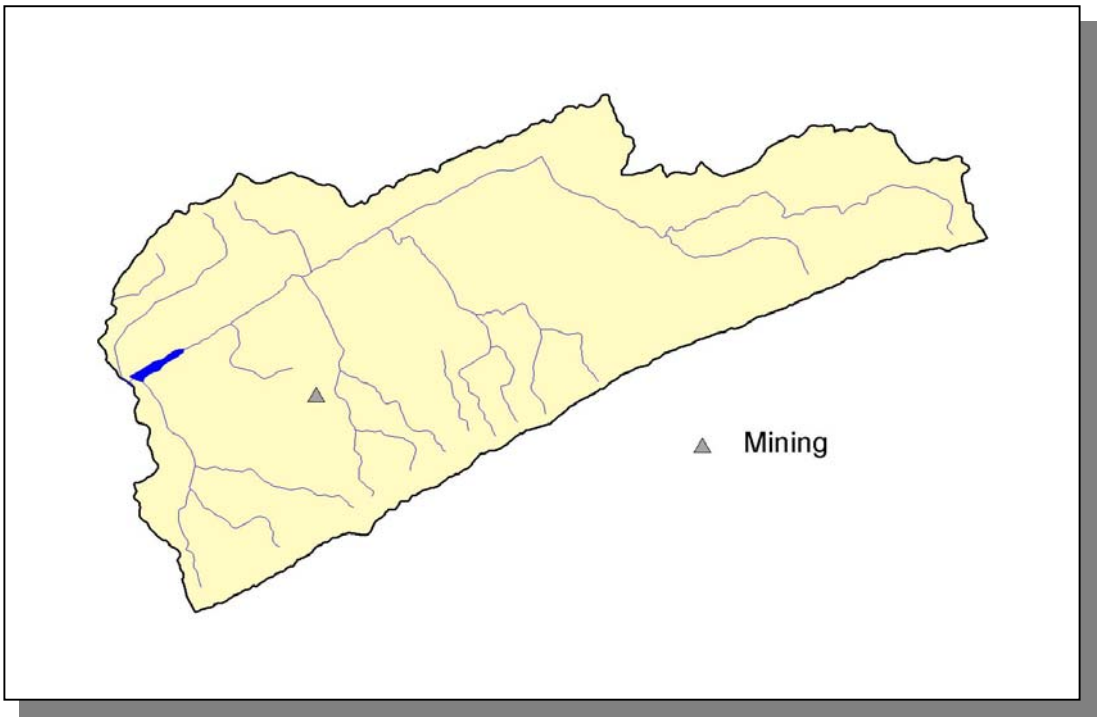


***Figure 4-122. Location of Permits Issued in Subwatershed 060102050803.*** *More information, including the names of facilities, is provided in Appendix IV.*

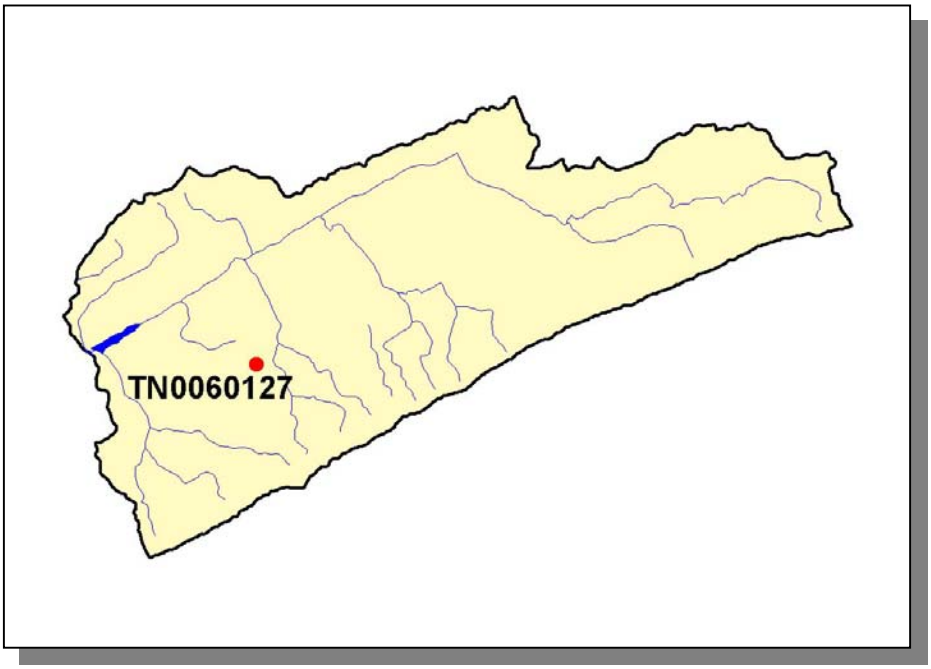


***Figure 4-123. Location of Active Mining Sites in Subwatershed 060102050803.*** *More information, including the names of mining operations, is provided in Appendix IV.*

4.2.D.iii.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 738 | 1,464 | 48 | <5 | 25 | 11 |

***Table 4-113. Summary of Livestock Count Estimates in Subwatershed 060102050803.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Claiborne | 18,697 | 36,566 | 1,082 | 420 | 0 | 165 |
| Grainger | 12,115 | 23,927 | 942 | 1,184 | 510 | 195 |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |

***Table 4-114. Summary of Livestock Count Estimates in Claiborne, Grainger, and Hancock Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Claiborne | 167.6 | 167.6 | 2.6 | 12.1 |
| Grainger | 102.6 | 102.6 | 0.3 | 1.8 |
| Hancock | 02.9 | 92.9 | 2.7 | 14.2 |

***Table 4-115. Forest Acreage and Annual Removal Rates (1987-1994) in Claiborne, Grainger, and Hancock Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 1.19 |
| Grass (Hayland) | 0.36 |
| Legumes, Grass (Hayland) | 0.60 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.84 |
| Corn (Row Crops) | 5.29 |
| Tobacco (Row Crops) | 9.14 |
| Farmsteads and Ranch Headquarters | 0.46 |

***Table 4-116. Annual Estimated Total Soil Loss in Subwatershed 060102050803.***

4.2.D.iv. 060102050804 (Clinch River).

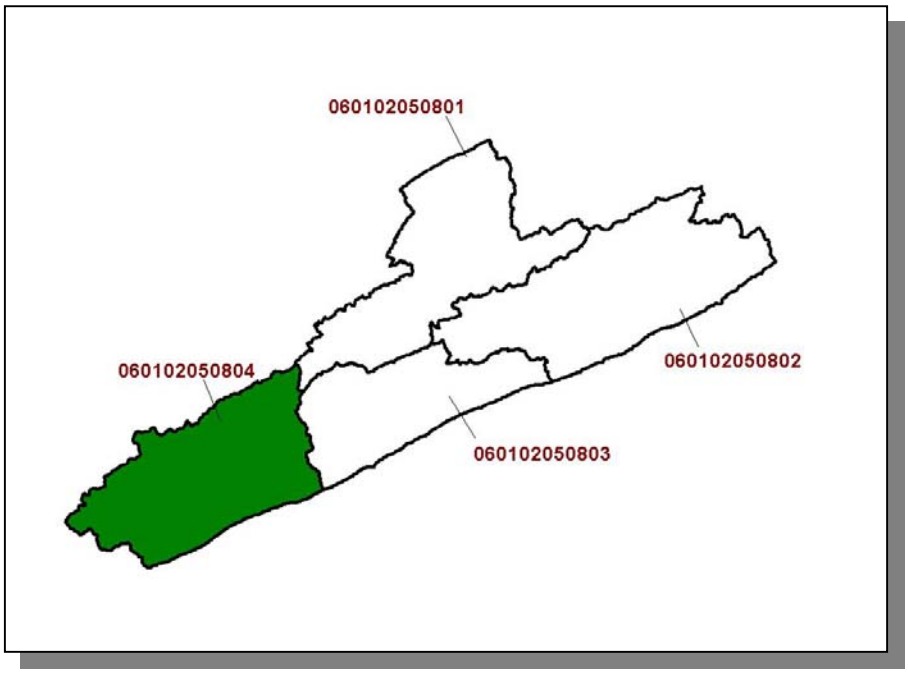


***Figure 4-124. Location of Subwatershed 060102050804.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

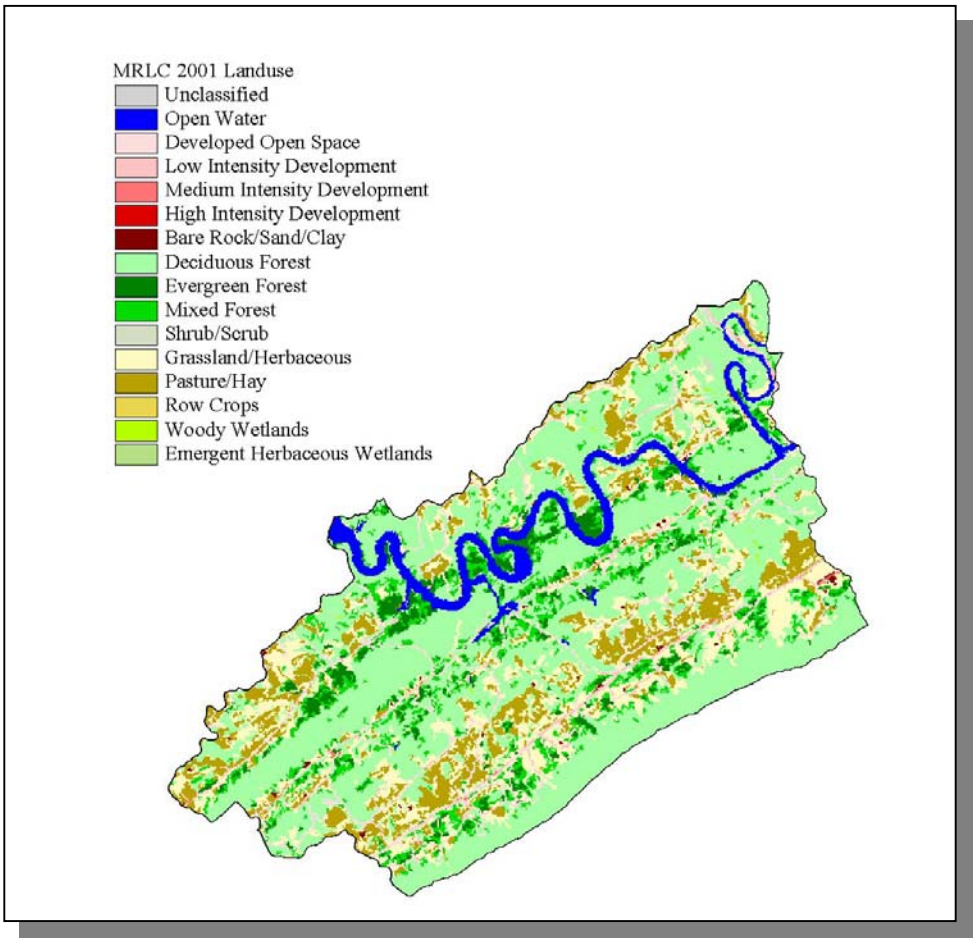


***Figure 4-125. Illustration of Land Use Distribution in Subwatershed 060102050804.***

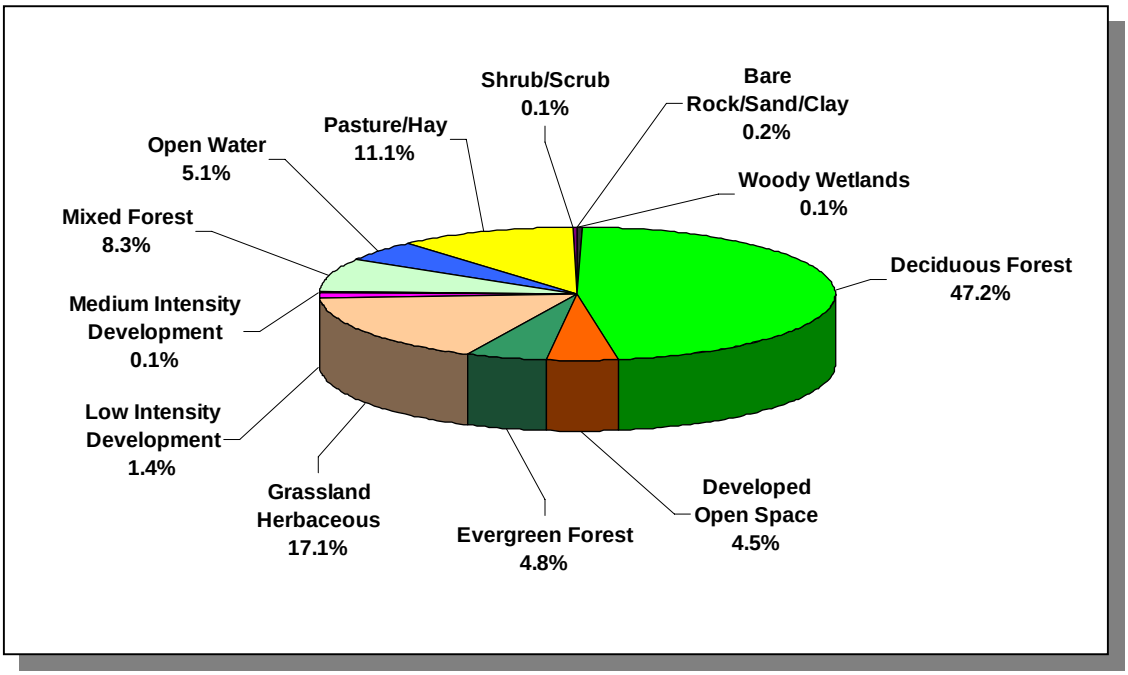


***Figure 4-126. Land Use Distribution in Subwatershed 060102050804.*** *More information is provided in Appendix IV.*

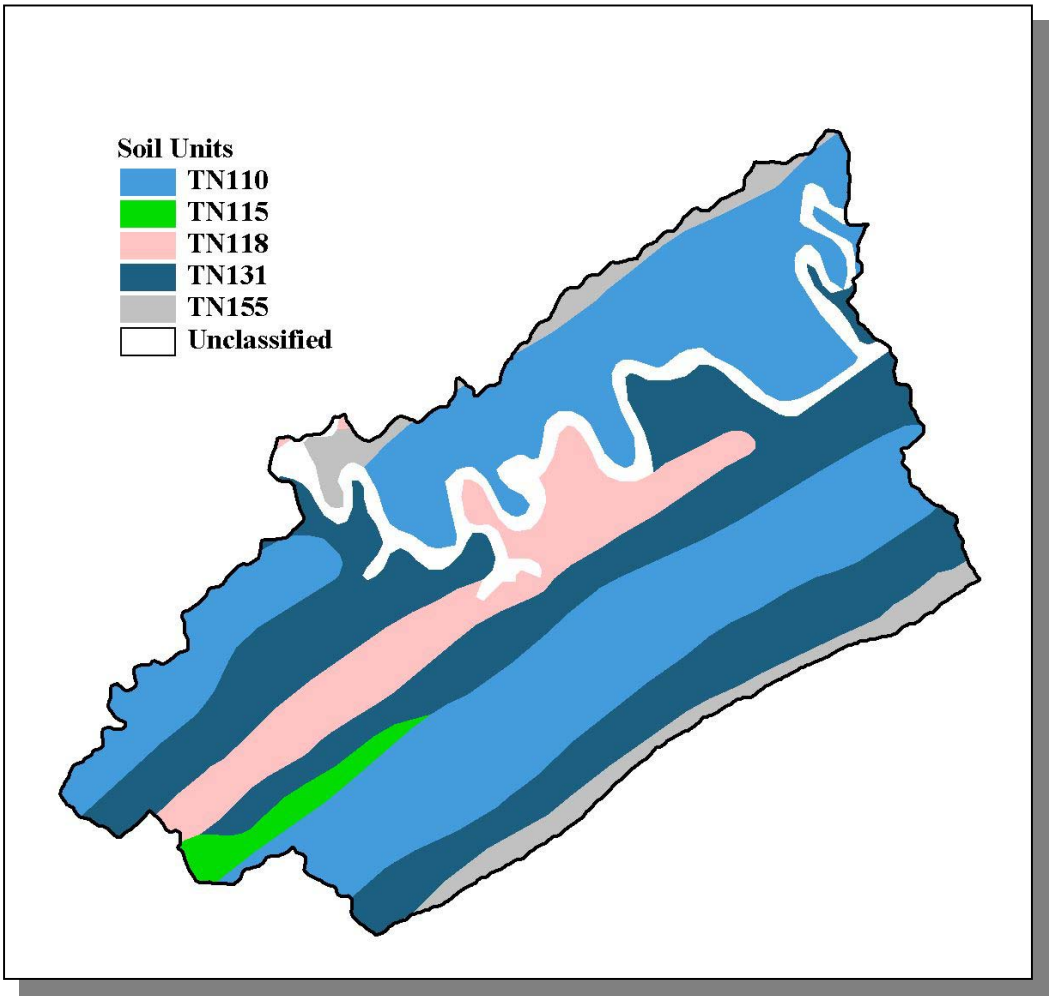


***Figure 4-127. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050804.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN115 | 0.00 | C | 1.41 | 5.15 | Silty Loam | 0.36 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |

***Table 4-117. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050804.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

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| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Claiborne | 26,137 | 28,963 | 29,862 | 2.32 | 606 | 671 | 692 | 14.2 |
| Grainger | 17,095 | 19,456 | 20,659 | 9.64 | 1,648 | 1,875 | 1,991 | 20.8 |
| **Total** | **43,232** | **48,419** | **50,521** | | **2,254** | **2,546** | **2,683** | **19.0** |

***Table 4-118. Population Estimates in Subwatershed 060102050804.***

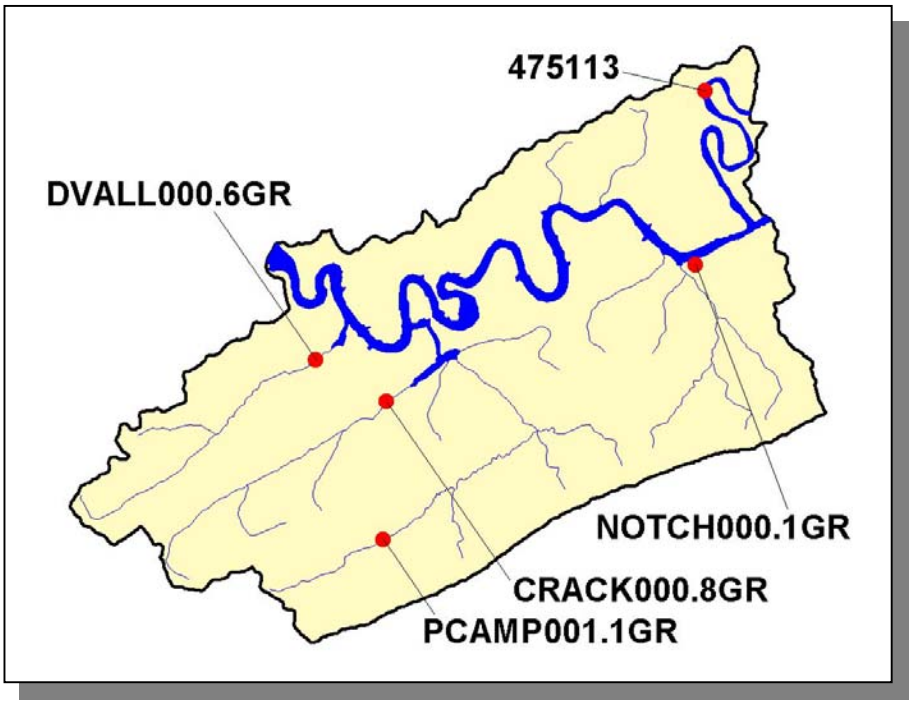


***Figure 4-128. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050804.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.D.iv.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.D.iv.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | |
| 1,081 | 2,130 | 79 | <5 | 34 | 15 |

***Table 4-119. Summary of Livestock Count Estimates in Subwatershed 060102050804.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Claiborne | 18,697 | 36,566 | 1,082 | 420 | 0 | 165 |
| Grainger | 12,115 | 23,927 | 942 | 1,184 | 510 | 195 |

***Table 4-120. Summary of Livestock Count Estimates in Claiborne and Grainger Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Claiborne | 167.60 | 167.60 | 2.6 | 12.1 |
| Grainger | 102.6 | 102.6 | 0.3 | 1.8 |

***Table 4-121. Forest Acreage and Annual Removal Rates (1987-1994) in Claiborne and Grainger Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.83 |
| Grass (Hayland) | 0.32 |
| Legumes, Grass (Hayland) | 0.60 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.65 |
| Corn (Row Crops) | 5.69 |
| Tobacco (Row Crops) | 7.21 |
| Farmsteads and Ranch Headquarters | 0.50 |

***Table 4-122. Annual Estimated Total Soil Loss in Subwatershed 060102050804.***

4.2.E. 0601020509.

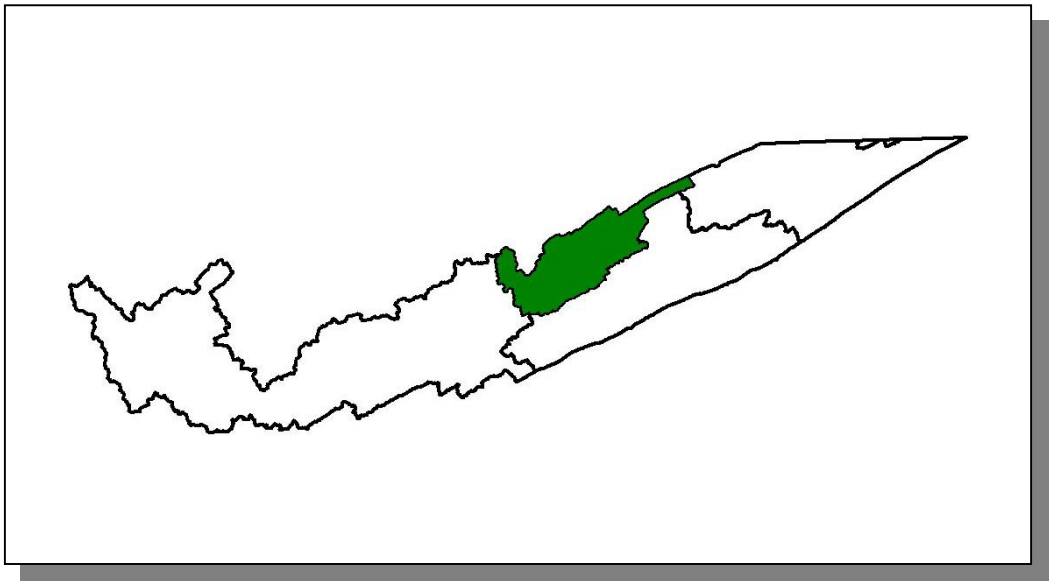

***Figure 4-129. Location of Subwatershed 0601020509.*** *All Upper Clinch River HUC-10 subwatershed boundaries are shown for reference.*

4.2.E.i. 060102050901 (Big Sycamore Creek).

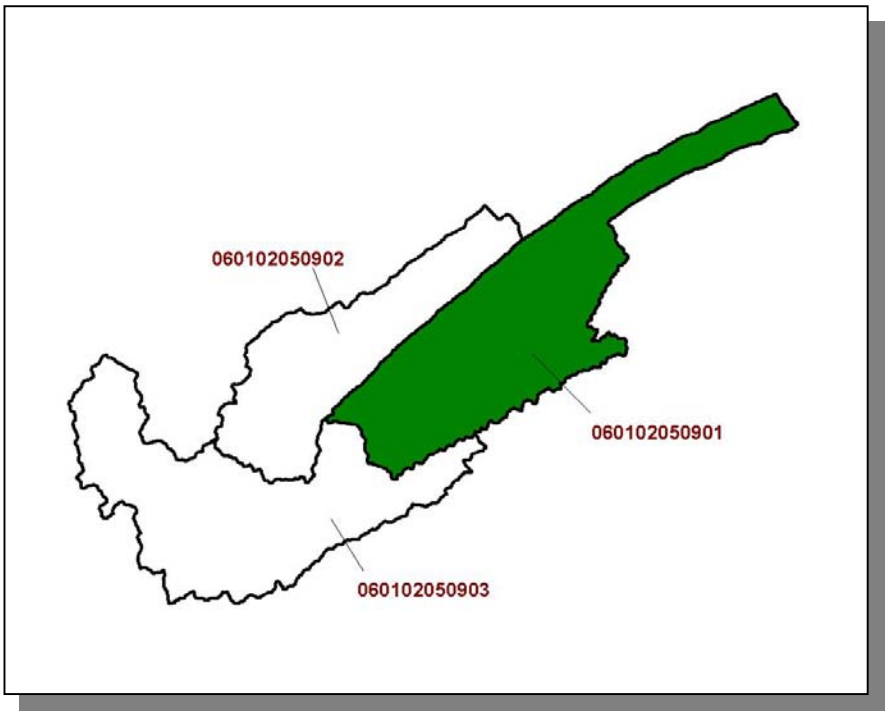


***Figure 4-130. Location of Subwatershed 060102050901.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

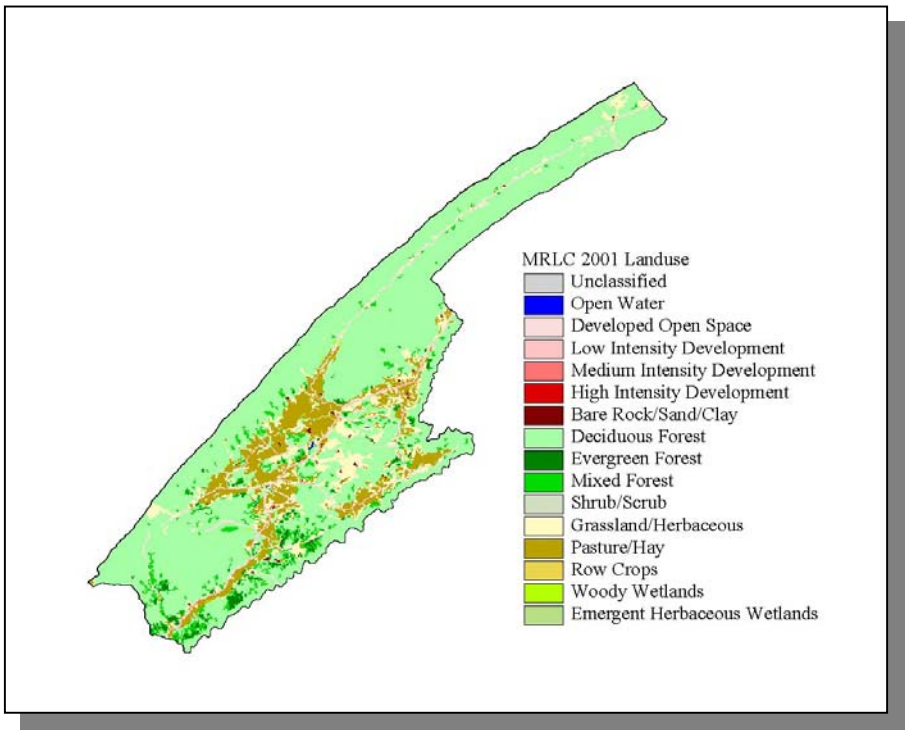


***Figure 4-131. Illustration of Land Use Distribution in Subwatershed 060102050901.***

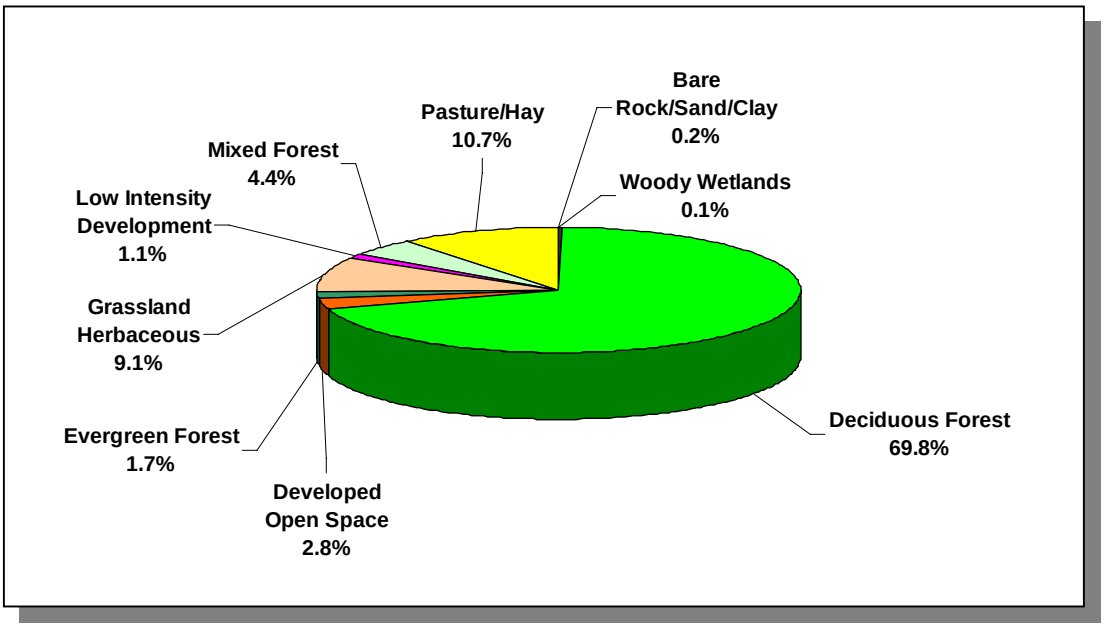


***Figure 4-132. Land Use Distribution in Subwatershed 060102050901.*** *More information is provided in Appendix IV.*

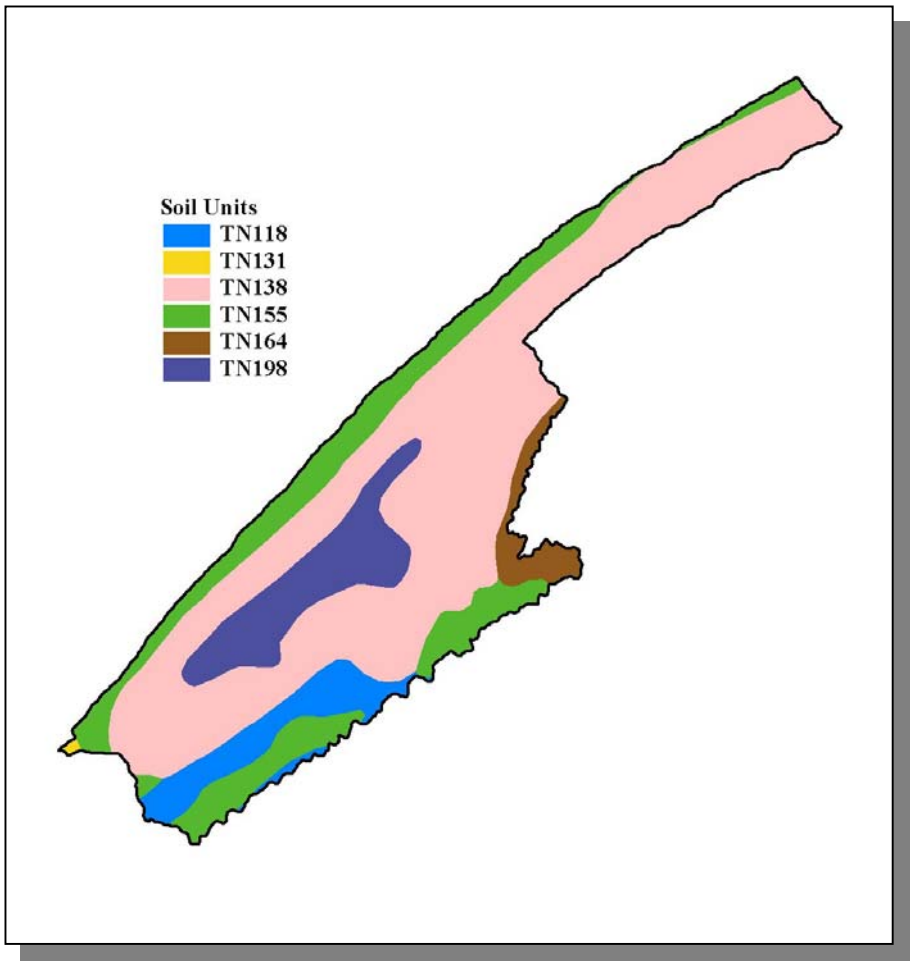


***Figure 4-133. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050901.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |
| TN164 | 0.00 | C | 4.84 | 5.15 | Loam | 0.25 |
| TN198 | 2.00 | C | 1.78 | 5.07 | Silty Loam | 0.39 |

***Table 4-123. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050901.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Claiborne | 26,137 | 28,963 | 29,862 | 4.98 | 1,301 | 1,441 | 1,486 | 14.2 |
| Hancock | 6,739 | 6,801 | 6,786 | 2.52 | 170 | 171 | 171 | 0.6 |
| **Total** | **32,876** | **35,764** | **36,648** | | **1,471** | **1,612** | **1,657** | **12.6** |

***Table 4-124. Population Estimates in Subwatershed 060102050901.***


***Figure 4-134. Location of Historical Streamflow Data Collection Sites in Subwatershed 060102050901.*** *More information is provided in Appendix IV.*

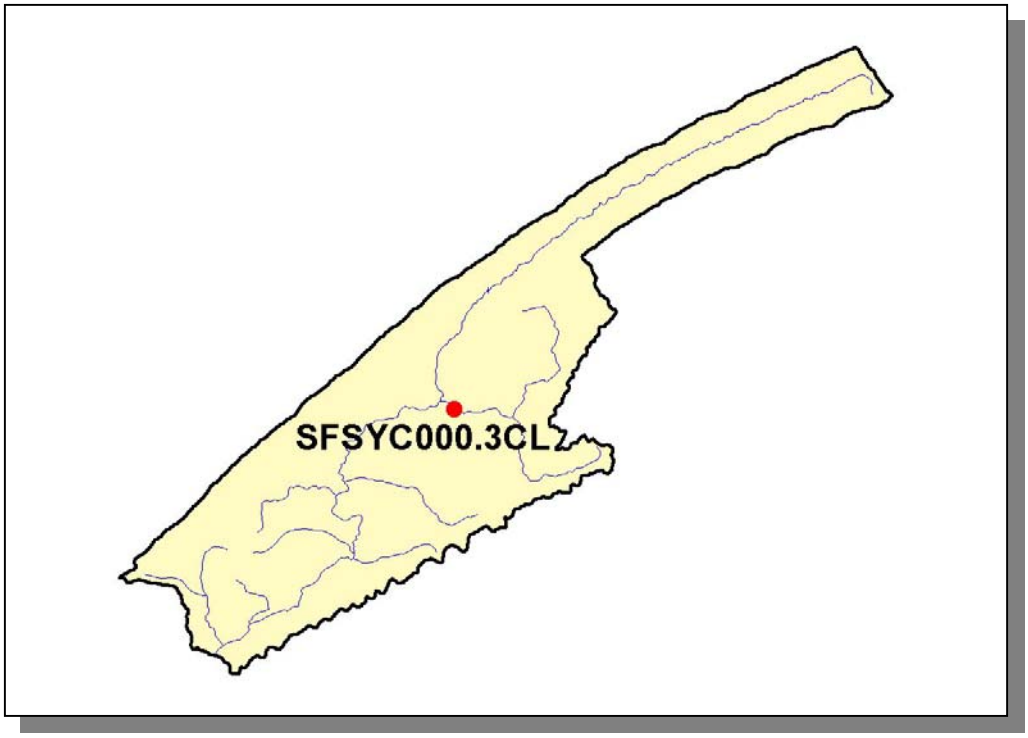


***Figure 4-135. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050901.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.E.i.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.E.i.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | |
|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Sheep |
| | | | | |
| 792 | 1,549 | 45 | <5 | 7 |

***Table 4-125. Summary of Livestock Count Estimates in Subwatershed 060102050901.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | | |
|---|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Hogs | Sheep |
| | | | | | | |
| Claiborne | 18,697 | 36,566 | 1,082 | 420 | 0 | 165 |
| Hancock | 7,079 | 14,311 | 89 | 364 | 0 | 67 |

***Table 4-126. Summary of Livestock Count Estimates in Claiborne and Hancock Counties.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Claiborne | 167.6 | 167.6 | 2.6 | 12.1 |
| Hancock | 92.9 | 92.9 | 2.7 | 14.2 |

***Table 4-127. Forest Acreage and Annual Removal Rates (1987-1994) in Claiborne and Hancock Counties.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.80 |
| Grass (Hayland) | 0.66 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.26 |
| Corn (Row Crops) | 2.42 |
| Tobacco (Row Crops) | 23.03 |
| Farmsteads and Ranch Headquarters | 0.35 |

***Table 4-128. Annual Estimated Total Soil Loss in Subwatershed 060102050901.***

4.2.E.ii. 060102050902 (Little Sycamore Creek).

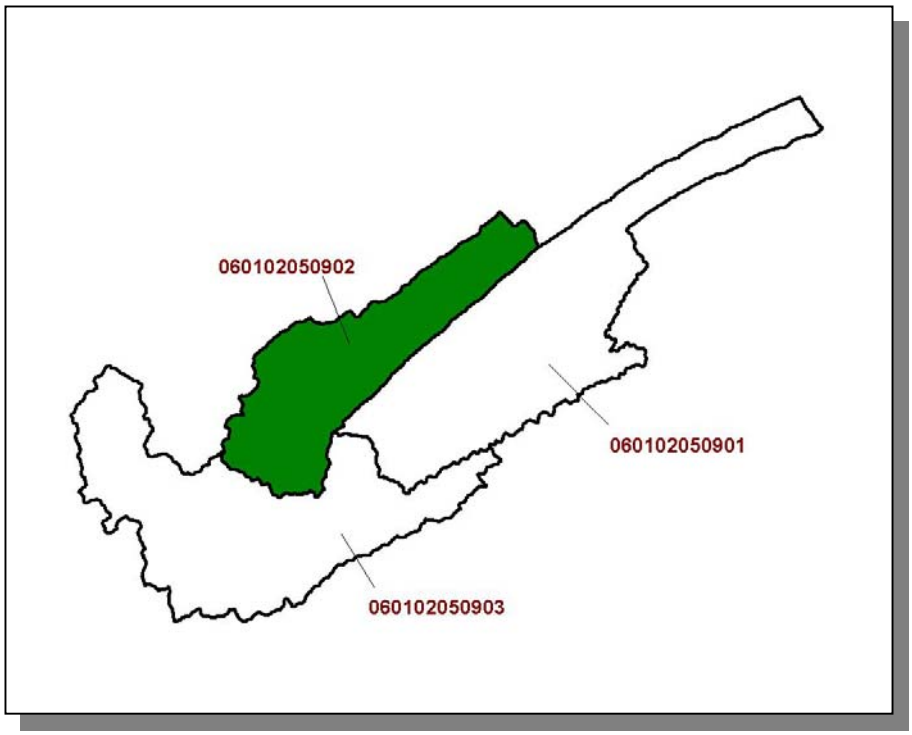


***Figure 4-136. Location of Subwatershed 060102050902.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

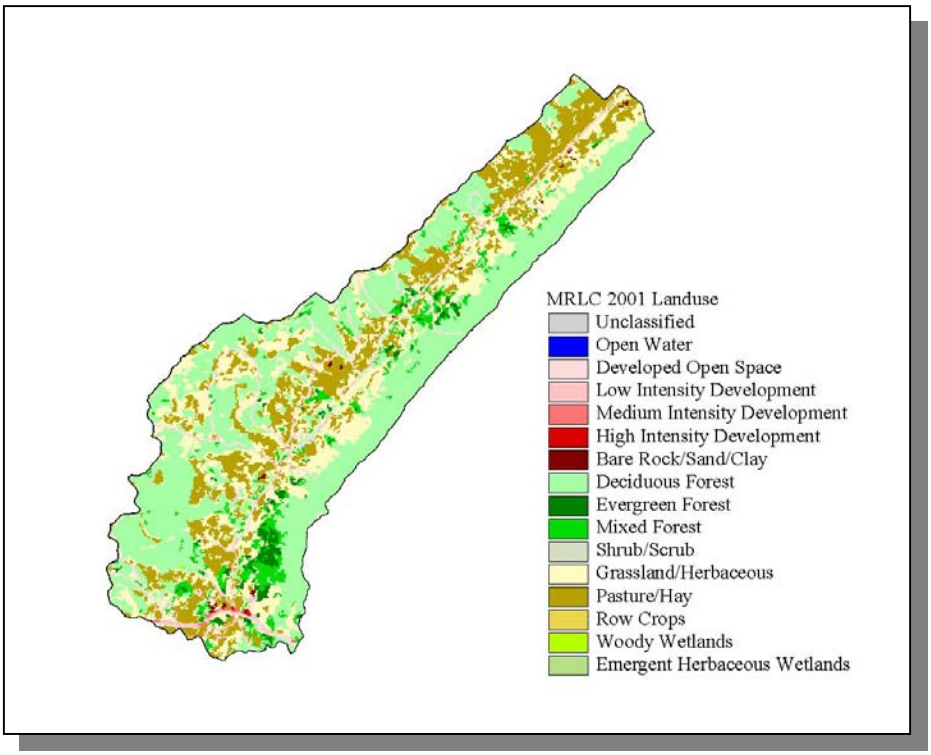


***Figure 4-137. Illustration of Land Use Distribution in Subwatershed 060102050902.***

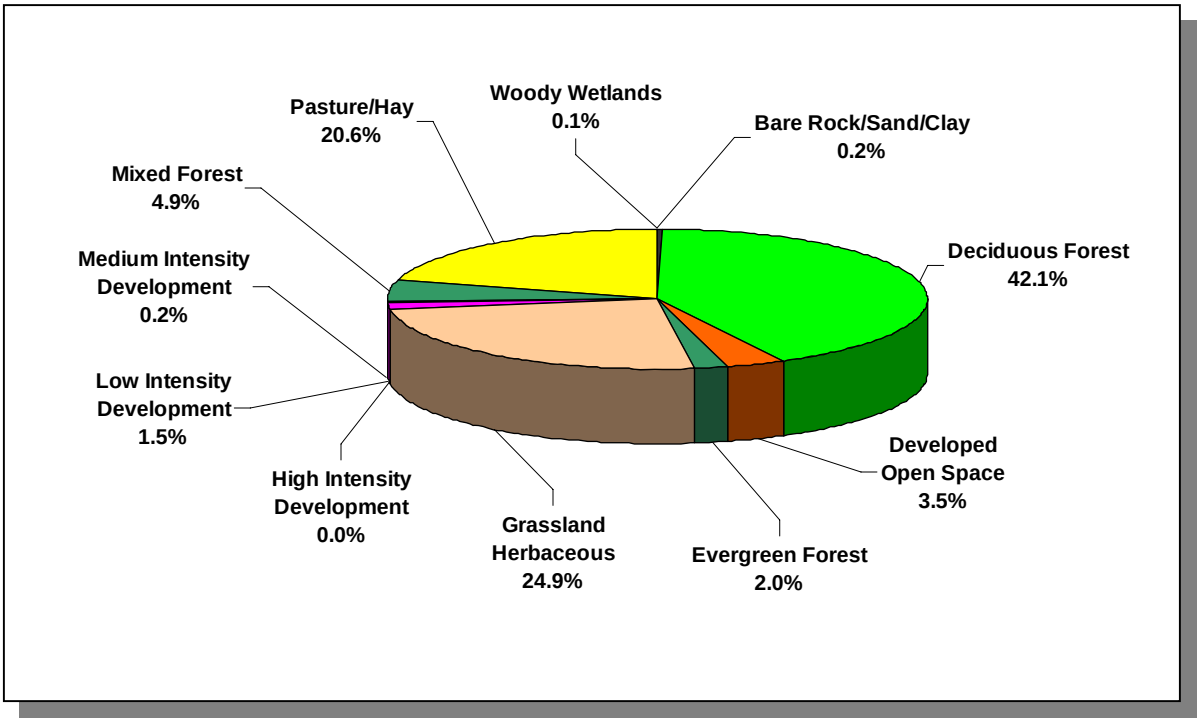


***Figure 4-138. Land Use Distribution in Subwatershed 060102050902.*** *More information is provided in Appendix IV.*

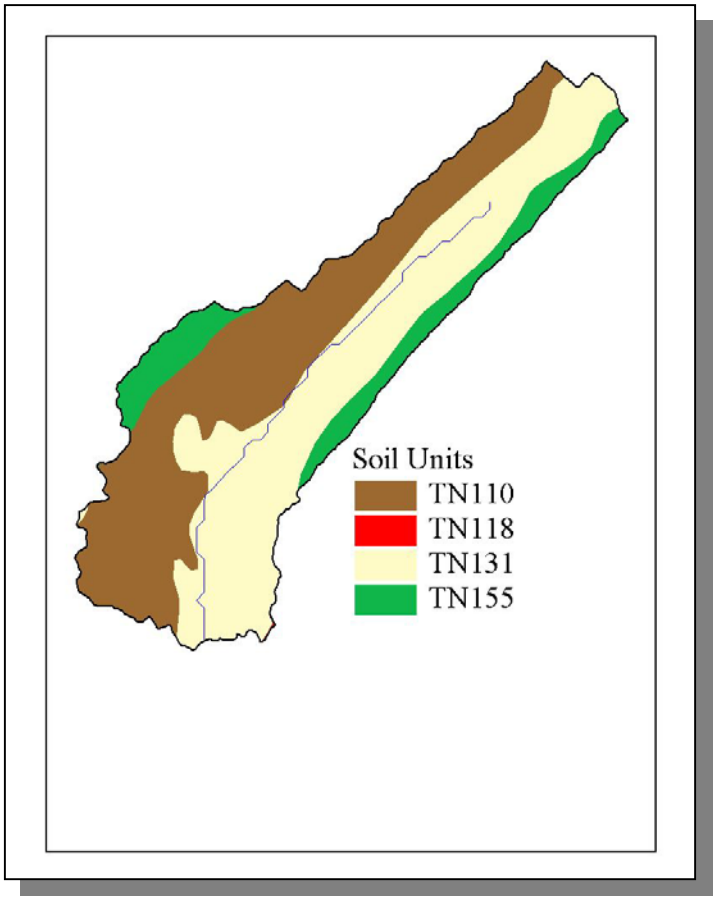


***Figure 4-139. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050902.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |

***Table 4-129. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050902.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Claiborne | 26,137 | 28,963 | 29,862 | 3.79 | 989 | 1,096 | 1,130 | 14.3 |

***Table 4-130. Population Estimates in Subwatershed 060102050902.***


***Figure 4-140. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050902.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

## 4.2.E.ii.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

## 4.2.E.ii.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | |
|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Sheep |
| | | | | |
| 1,118 | 2,187 | 65 | <5 | 10 |

***Table 4-131. Summary of Livestock Count Estimates in Subwatershed 060102050902.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Sheep |
| | | | | | |
| Claiborne | 18,697 | 36,566 | 1,082 | 420 | 165 |

***Table 4-132. Summary of Livestock Count Estimates in Claiborne County.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Claiborne | 167.6 | 167.6 | 2.6 | 12.1 |

***Table 4-133. Forest Acreage and Annual Removal Rates (1987-1994) in Claiborne County.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.38 |
| Grass, Forbs, Legumes (Mixed Pasture) | 1.13 |
| Farmsteads and Ranch Headquarters | 0.43 |

***Table 4-134. Annual Estimated Total Soil Loss in Subwatershed 051302060902.***

4.2.E.iii. 060102050903 (Sycamore Creek).

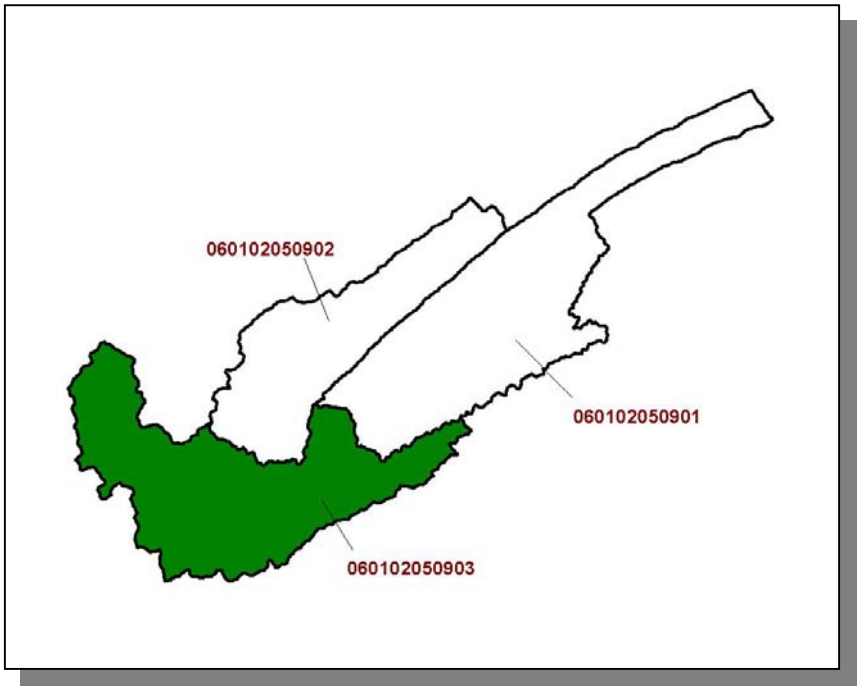


***Figure 4-141. Location of Subwatershed 060102050903.*** *All Upper Clinch River HUC-12 subwatershed boundaries in Tennessee are shown for reference.*

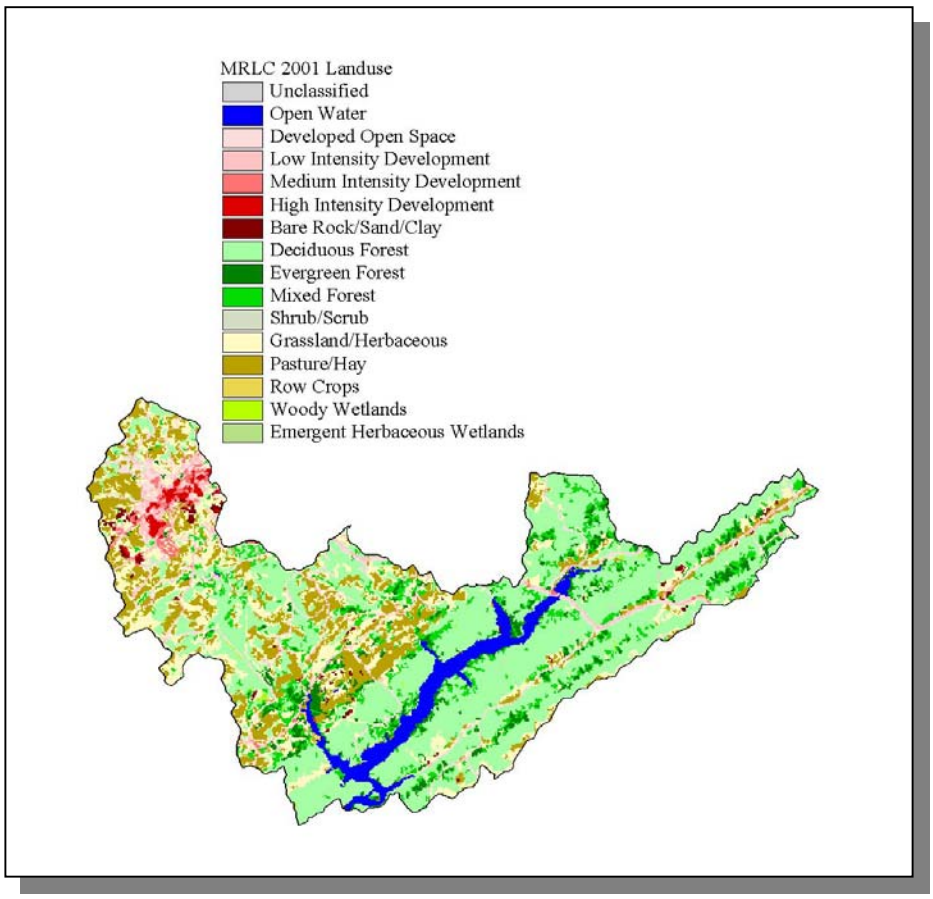


***Figure 4-142. Illustration of Land Use Distribution in Subwatershed 060102050903.***

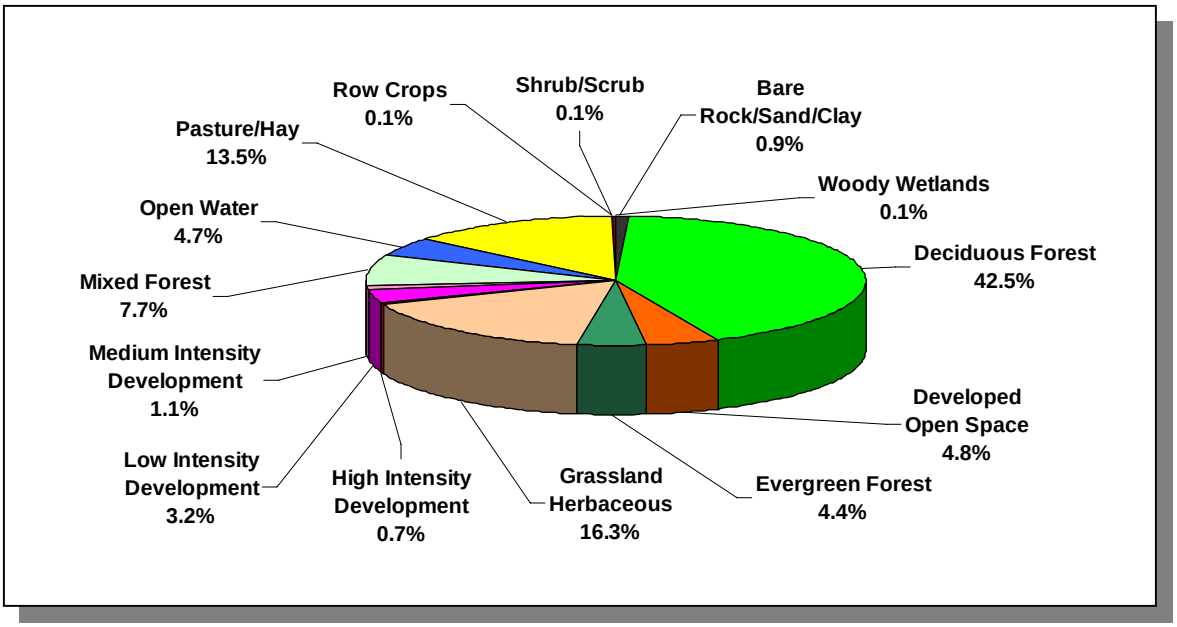


***Figure 4-143. Land Use Distribution in Subwatershed 060102050903.*** *More information is provided in Appendix IV.*

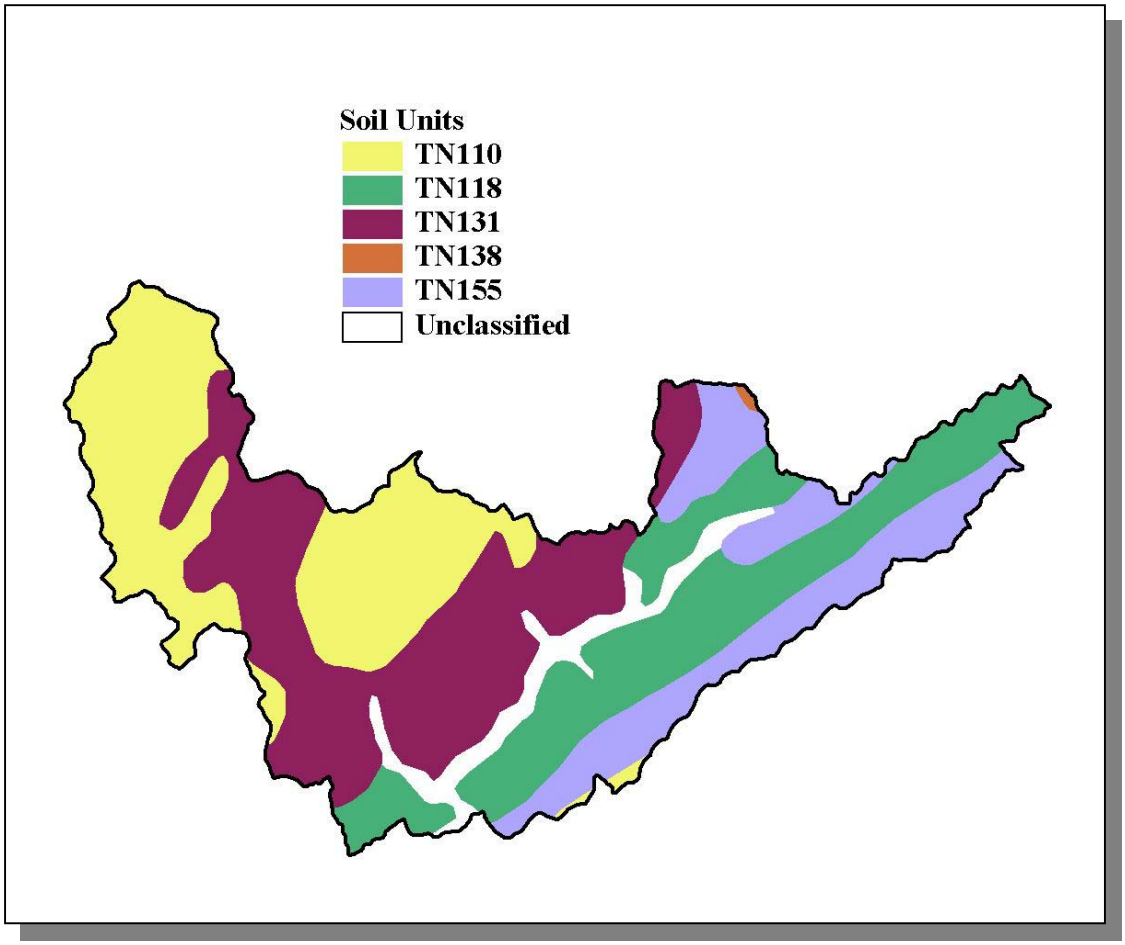


***Figure 4-144. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050903.***

| STATSGO MAP UNIT ID | PERCENT HYDRIC | HYDROLOGIC GROUP | PERMEABILITY (in/hour) | SOIL pH | ESTIMATED SOIL TEXTURE | SOIL ERODIBILITY |
|---|---|---|---|---|---|---|
| TN110 | 0.00 | B | 2.22 | 4.96 | Loam | 0.31 |
| TN118 | 0.00 | C | 6.52 | 5.12 | Loam | 0.29 |
| TN131 | 0.00 | C | 1.17 | 4.95 | Silty Loam | 0.33 |
| TN138 | 0.00 | C | 2.48 | 4.26 | Sandy Loam | 0.22 |
| TN155 | 0.00 | C | 1.71 | 5.31 | Loam | 0.32 |

***Table 4-135. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102050903.*** *The definition of "Hydrologic Group" is provided in Appendix IV.*

.

| | COUNTY POPULATION | | | | ESTIMATED POPULATION IN WATERSHED | | | |
|---|---|---|---|---|---|---|---|---|
| County | 1990 | 1997 | 2000 | Portion of Watershed (%) | 1990 | 1997 | 2000 | % Change (1990-2000) |
| | | | | | | | | |
| Claiborne | 26,137 | 28,963 | 29,862 | 5.78 | 1,512 | 1,675 | 1,727 | 14.2 |

***Table 4-136. Population Estimates in Subwatershed 060102050903.***

| | | | NUMBER OF HOUSING UNITS | | | |
|---|---|---|---|---|---|---|
| Populated Place | County | Population | Total | Public Sewer | Septic Tank | Other |
| | | | | | | |
| New Tazewell | Claiborne | 1,864 | 785 | 543 | 236 | 6 |
| Tazewell | Claiborne | 2,150 | 919 | 602 | 304 | 13 |
| **Total** | | **4,014** | **1,704** | **1,145** | **540** | **19** |

***Table 4-137. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 060102050903.***

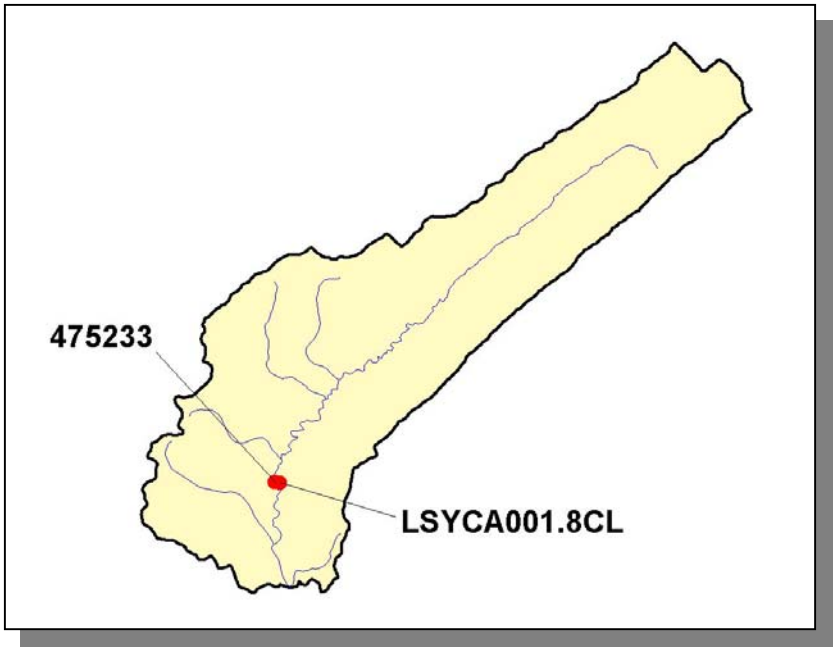


***Figure 4-145. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 060102050903.*** *More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.*

4.2.E.iii.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.E.iii.b. Nonpoint Source Contributions.

| LIVESTOCK COUNTS | | | | |
|---|---|---|---|---|
| Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Sheep |
| | | | | |
| 1,128 | 2,207 | 65 | <5 | 10 |

***Table 4-138. Summary of Livestock Count Estimates in Subwatershed 060102050903.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| LIVESTOCK COUNTS | | | | | |
|---|---|---|---|---|---|
| County | Beef Cow | Cattle | Milk Cow | Chickens (Layers) | Sheep |
| | | | | | |
| Claiborne | 18,697 | 36,566 | 1,082 | 420 | 165 |

***Table 4-139. Summary of Livestock Count Estimates in Claiborne County.*** *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.*

| | INVENTORY | | REMOVAL RATE | |
|---|---|---|---|---|
| County | Forest Land (thousand acres) | Timber Land (thousand acres) | Growing Stock (million cubic feet) | Sawtimber (million board feet) |
| | | | | |
| Claiborne | 167.6 | 167.6 | 2.6 | 12.1 |

***Table 4-140. Forest Acreage and Annual Removal Rates (1987-1994) in Claiborne County.***

| CROPS | TONS/ACRE/YEAR |
|---|---|
| Grass (Pastureland) | 0.38 |
| Grass, Forbs, Legumes (Mixed Pasture) | 0.13 |
| Farmsteads and Ranch Headquarters | 0.43 |

***Table 4-141. Annual Estimated Total Soil Loss in Subwatershed 060102050903.***